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Matches 11; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAW71180-83 represent N-terminally truncated human lactoferrin proteins. The lactoferrin variants bind heparin with lower affinity than natural lactoferrin. The lactoferrin variants exhibit biological activities such as anti-inflammatory, anti-viral and anti-infective activities as well as a pro- and anti-coagulant effects, modulation of complement activation, inhibition of LPS mediated activation of neutrophils, inhibition of myelopoiesis, regulation of transcription, growth promotion of intestinal epithelial cells, inhibition of hydroxyl-radical formation, and a role in intestinal iron uptake and excretion. note: this sequence does not appear in the specification; it was created uing information provided
                                                                                                                                                                                    Compositions containing human lactoferrin and variants - a treating e.g. anaemia, iron-storage disease, inflammation, rheumatoid arthritis, ulcerative colitis or infections.
            27-MAR-2000; 2000EP-00201110
27-MAR-2000; 2000US-0193352P
                                               27-MAR-2001; 2001WO-NL000253
                                                                                               WO200172322-A2
                                                                                                                                                                    Homo sapiens
                                                                                                                                                                                                                                                    Human lactoferrin variant hLF-3N.
                                                                                                                                                                                                                                                                            22-JAN-2002
                                                                                                                                                                                                                                                                                                                         AAG77909 standard; protein; 689 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 689 AA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WPI; 1998-437164/37.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Nuijens J,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  03-FEB-1997;
02-FEB-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              06-AUG-1998
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                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
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                                                                                                                                                                                                                                                                          (first entry)
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                                                                                                                     Location/Qualifiers
25. .28
/label= Cationic_do
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                                                                                                                    Cationic_domain
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Pred. No. 0.24;
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RESULT 10
AAW71180
ID AAW71
XX AAW71
XX AAW71
XX WITH AC AAW71
XX WO983
XX WO987
XX WO987
XX WO987
XX WO987
XX WO987
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Best Local S
Matches 11
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               Compositions containing human lactoferrin and variants - a treating e.g. anaemia, iron-storage disease, inflammation, rheumatoid arthritis, ulcerative colitis or infections.
                                                                              WPI; 1998-437164/37.
                                                                                                              Nuijens J,
                                                                                                                                                                           03-FEB-1997;
02-FEB-1998;
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                                                                                                                                                                                                                                                                                                                                        Synthetic
                                                                                                                                                                                                                                                                                                                                                                                 anti-infective; coagulant; complement activation; inhibition; IPS mediated activation; myelopoiesis; growth promotion; intestinal epithelial cell; hydroxyl-radical formation;
                                                                                                                                                                                                                                                                                                                                                                                                                                    Human; lactoferrin protein; variant;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mutant human lactoferrin protein designated hLF-2N.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    27-OCT-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAW71180;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAW71180 standard; protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 689 AA;
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                                                                                                                                                                                                                                                                                                                                                                       intestinal iron
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                                                                                                                                                                                                                                                                                                                       iomo sapiens
                                                                                                                                              (PHAR-) PHARMING BV
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                                                                                                            Van
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (first entry)
                                                                                                                                                                           97US-0036859P.
98US-00017043.
                                                                                                                                                                                                                         98WO-IB000441
                                                                                                            Berkel
                                                                                                                                                                                                                                                                                                                                                                     uptake; excretion
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Nuijens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    for treatment s of heparin.
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91.7%;
                                                                                                              PHC;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  690
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                                                                                                                                                                                                                                                                                                                                                                                                                                    anti-inflammatory;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB 4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 689;
                                                                                                                                                                                                                                                                                                                                                                                                                                    anti-viral;
                                            are used
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RESULT 11
AAG77908
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Best Local S
Matches 11
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The sequence represents the human lactoferrin (hLF) protein variant hLF-2N. The invention relates to novel methods of treatment using high doses of lactoferrin. The methods of the invention are useful for the treatment or prophylaxis of infectious diseases, inflammatory diseases and excess of heparin e.g. gastroenteritis, inflammatory bowel disease, sepsis, anaemia, myelopoieses, reducing reperfusion injury, cytokine release and proteoglycan-mediated entry of virus into cells. The advantage of the method is that the patient is substantially free of side effect responses
                                                                                                                                                                                      Use
                                                                                                                                                                                                                     WPI;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 690 AA;
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27-MAR-2000;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Key
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           proteoglycan;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Human; lactoferrin; hLF; infectious disease; inflammatory disease; excess of heparin; gastroenteritis; inflammatory bowel disease; se anaemia; myelopoiesis; reperfusion injury; cytokine release;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAG77908 standard;
                                                                                                                                          Claim 10;
                                                                                                                                                                         diseases
                                                                                                                                                                                                                                                  Van Bree JBMM,
                                                                                                                                                                                                                                                                               (PHAR-)
                                                                                                                                                                                                                                                                                                                                                          27-MAR-2001;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     22-JAN-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAG77908;
                                                                                                                                                                       of lactoferrin for treatment of eases and excess of heparin.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              sapiens
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                                                                                                                                                                                                                                                                               PHARMING INTELLECTUAL
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                                                                                                                                        Page; 49pp; English.
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2000US-0193352P
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             hLF-2N; mutant; mutein.
                                                                                                                                                                                                                                                Nuijens
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                                                                                                                                                                                                                                                                                                                                                                                                                                                   /label= Cationic_domain
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Pred. No. 0.24;
0; Mismatches
                                                                                                                                                                                                                                                                                 PROPERTY BV
                                                                                                                                                                                       infectious diseases, inflammatory
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         disease; sepsis;
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                                                                               high doses
he treatment
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ABG80724
ID ABG
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The invention describes a method of producing a heterologous polypeptide (I) in a grain of a plant, comprising culturing, a transformed plant (P1) CC comprising a first chimeric gene, and optionally, at least one tetrologous transcription factor that is capable of enhancing the expression of the chimeric gene, to form a grain producing transforming CC plant (P2), and recovering transgenic grains containing (I) from P2. The CC method is useful for producing heterologous polypeptide in a grain of a plant. (I) is a non-plant storage, human or non-human animal, milk or cother than a milk polypeptide, antibodies, cytokines, lymphokines, CC chemokines, or cytotoxins, or anti-inflammatory molecule or intestinal curefoil factor (ITF) or its active fragment. Preferably, (I) is completed factor (KGF), insulin-like growth factor I (IGF-I), CC lactoferrin, lysozyme, lactoferricin, ITF, epidermal growth factor (EGF), capital factor (KGF), insulin-like growth factor (EGF), capital-actaplophilin, beta-casein, haptocorrin, lactoperoxidase, alpha-1 capital-casein, immunoglobulins, alpha-lactalbumin, beta-lactoglobulin, alpha-casein, immunoglobulins, alpha-lactalbumin, beta-case inhibitor.
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Best Local S
Matches 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             to administration of lactoferrin. Therefore large doses of lactoferrin can be administered. Note: The present sequence is not shown in the specification but is derived from human wild-type lactoferrin sequence given in the sequence listing of the specification
                                                                                                                                                                                                                                                                                                                                                                     producing heterologous polypeptide in plant grain, by culturing transformed plant to form a grain-producing transforming plant, and recovering transgenic grains containing polypeptide from transformed
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Huang N,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Homo sapiens.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Transformed plant; heterologous transcription factor; transgenic plant;
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14-FEB-2001;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Yang
                                                                                                                                                                                                                                                                                                                         Page 117;
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2001US-0269199P.
2001US-00847232.
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91.7%;
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Pred. No. 0.24;
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RESULT 13
AAE27884
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                                                                                                                     The invention relates to improved feed for production animals, comprising one or more plant-derived feed ingredients, substantially unsupplemented with small-molecule antibiotics and as an additive a seed composition containing a flour, extract or malt obtained from mature monocot seeds and one or more heterologous seed-produced anti- microbial proteins in
                                                Sequence 690 AA;
                                                                                 and one or more heterologous seed-produced anti- microbial proteins in substantially unpurified form. The invention is useful as a feed for production animals such as poultry and hoofed farm animals. The present sequence is human codon optimised lactoferrin. This sequence is used in
                                                                                                                                                                                         Example 7; Page 148-150; 175pp; English.
                                                                                                                                                                                                                   proteins
                                                                                                                                                                                                                           Improved feed for production animals, comprising plant-derived feed ingredients, and seed composition containing flour, extract, or malt from mature monocot seeds and heterologous seed-produced anti-microbial
                                                                                                                                                                                                                                                                            WPI; 2002-682708/73.
N-PSDB; AAD45297.
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                                                                                                                                                                                                                                                                                                               Huang
                                                                                                                                                                                                                                                                                                                                        (VENT-)
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  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  improvement;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            optimised lactoferrin.
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           93.3%;
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91.7%;
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                                                                                                                                                                                                                                                                                                               Hagie FE;
Score 56; DB
Pred. No. 0.24
0; Mismatches
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           DB 5;
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Best Local Similarity
Matches 11; Conser
                                                                                                                                                                                                                                                                                                                                            The present sequence is that of human lactoferrin. The invention relates to a synthetic gene (see AAZ58122) that encodes human lactoferrin but which has codon usage designed to maximise expression in plants. Transgenic plants that express human lactoferrin in a tissue-specific manner, especially in the seeds, can be used in processes for the production of functional vegetah milk, fruit juices, fruit and/or vegetable homogenized foods (claimed). The transgenic plants are selected from solanaceae, cereals, leguminosae, fruit bearing plants and
         Human; lactoferrin; hLF; N-terminal; antimicrobial; heparin; inflammatory response; cytokine production reduction; neutrophil degranulation; myelopoiesis inhibition.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Synthetic polynucleotide encoding human lactoferrin, used for production of functional foods, vegetal milks and human lactoferrin.
                                                              Human lactoferrin (hLF).
                                                                                       17-AUG-2001
                                                                                                                 AAB97382;
                                                                                                                                       AAB97382 standard; protein; 692 AA.
                                                                                                                                                                                                                                                                                                           Sequence 692 AA;
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N-PSDB; AAZ58122.
                                                                                                                                                                                                                                                                                                                                  horticultural plants, especially soybean,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Disclosure; Page 73-77; 93pp; English.
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Homo sapiens.

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Search completed: September 1, 2004, 00:09:50 Job time : 29.88 secs
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Best Local Similarity 91.7
Matches 11; Conservative
                                                                                                                                                                                                                 This invention relates to fragments (between 6 and 26 amino acids) of the human lactoferrin hlf protein (represented by the present sequence). Noterinial hlf peptides have antimicrobial activity. The peptides of the invention are used to treat microbial infections, especially infections by gram positive or negative bacteria, particularly listeria, Staphylococcus, Klebsiella or Escherichia species, especially Listeria, monocytogenes, S. aureus and E. coli. Other uses include reducing inflammatory response by neutralising heparin or lipopolysaccharide or by reducing cytokine production and neutrophil degranulation, inhibiting entry of viruses such as cytomegalovirus, herpes simplex virus 1 or HIV into cells, inhibiting myelopoiesis and reducing production of GM-CSF (granulocyte/macrophage colony stimulating factor)
                                                                                                                                                                                                                                                                                                                                                                                                                                                           New polypeptides comprising the N-terminal region of human lactoferrin protein exhibit higher antimicrobial activity than the full length protein and are useful to treat bacterial infections.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Domain
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Key
                                                                                                                                                                                                                                                                                                                                                                                                                               Claim 1; Page 55-57; 59pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WPI; 2001-335909/35.
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11-NOV-1999;
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                                                                 341 ARRARVVWCAVG 352
                                                                                               1 ARRARVVWAAVG 12
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99US-0164975P.
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/label= Cationic_domain
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referred to in the claims"
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1: /cgn2_6/ptodata/2/iaa/5A_COMB.pep:*

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3: /cgn2_6/ptodata/2/iaa/6A_COMB.pep:*

4: /cgn2_6/ptodata/2/iaa/6B_COMB.pep:*

5: /cgn2_6/ptodata/2/iaa/PCTUS_COMB.pep:*

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Listing first 45 summaries
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US-08-655-640-4
US-08-655-640-4
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US-08-461-333-2
US-08-464-167-2
US-08-145-681-2
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US-08-461-167-2
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34-0	52-9	4-05	23-4	62-6	61-8	252-9	-977-767-1	52-9		633-7	65-	456-108	56-1	53-7	145-6	33-7	65
00C	-991A-26	378.	28D-	-611-2	-889-2	91A-	67-	91A.	991A-	-739-	577-4	.08-4	106-4	703-	681-	739-	577-
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ALIGNMENTS

## ; MOLECULE TYPE: protein US-08-724-586-2 RESULT 1 US-08-724-586-2 TELEPHONE: (202) 638-6666 TELEPAX: (202) 393-350 INFORMATION FOR SEQ ID NO: 2: SEQUENCE CHARACTERISTICS: LENGTH: 694 amino acids TYPE: amino acid TOPOLOGY: linear TITLE OF INVENTION: Cloning, Expression, an ITITLE OF INVENTION: Lactoferrin NUMBER OF SEQUENCES: 8 CORRESPONDENCE ADDRESS; ADDRESSEE: Jachn-Sequence 2, Query Match Best Local Similarity Matches 11; Conserv MEDIUM TYPE: Flopy disk COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: Patentin Release #1.0, Ve CURRENT APPLICATION DATA: APPLICATION NUMBER: US/08/724,586 FILING DATE: 30-SEPT-1996 CLASSIFICATION: 435 PRIOR APPLICATION DATA: APPLICATION DATA: APPLICATION NUMBER: US 08/238,445 FILING DATE: 05-MAY-1994 ATTORNEY/AGENT INFORMATION: NAME: Player, William E. REGISTRATION NUMBER: 31,409 REFERENCE/DOCKET NUMBER: 10505/P581 TELECOMMUNICATION INFORMATION: TELECOMMUNICATION INFORMATION: GENERAL INFORMATION: ZIP: 20004 COMPUTER READABLE FORM: MEDIUM TYPE: Floppy APPLICANT: Kruzel, Marian I APPLICANT: Kurecki, Tomasz APPLICANT: Gollnick, Paul I APPLICANT: Doyle, Darrell C ADDRESSEE: Jacobson, Price, Holman & Stern STREET: 400 Seventh St. N.W. CITY: Washington D.C. COUNTRY: U.S.A. 2, Application US/08724586 93.3%; Score 56; DB 3 Pred. No. 0.1; 0; Mismatches 10505/P58185C Version DB 3; and Uses of Human #1.25 Length 694;

ARRARVVWAAVG 12 Conservative

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RESULT 3
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US-09-421-632-2
                                                                                                                                                                                                      Sequence 2, Application US/09932190 Patent No. 6455687 GENERAL INFORMATION:
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INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
LENGTH: 694 amino acids
TYPE: amino acid
TOPOLOGY: linear
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APPLICANT: Kruzel
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MEDIUM TYPE: Floppy disk
COMPUTER: IBM FC-Compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NAME: Player William E.
REGISTATION NUMBER: 31,409
REFERENCE/DOCKST NUMBER: 10505/P58185C
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CLASSIFICATION: PRIOR APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: Kurecki, Tomasz
APPLICANT: Gollnick, Paul D.
APPLICANT: Doyle, Darrell J.
TITLE OF INVENTION: Cloning, Expression, and Uses of Human
TITLE OF INVENTION: Lactoferrin
NUMBER OF SEQUENCES: 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                           / Match 93.3%;
Local Similarity 91.7%;
les 11; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STREET: 400 Seventh S CITY: Washington D.C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TELEPHONE:
CORRESPONDENCE ADDRESS:
ADDRESSEE: Jacobson, Price, Holman & Stern
STREET: 400 Seventh St. N.W.
                                                                                              Kurecki, Tomasz
Gollnick, Paul D.
Doyle, Darrell J.
TITLE OF INVENTION: Cloning, Expression, and Uses of Human
                                                                  NUMBER OF SEQUENCES:
                                                                                                                                                                                    APPLICANT: Kruzel, Marian L.
                                                                                                                                                                                                                                                                                                                                                  343 ARRARVVWCAVG 354
                                                                                                                                                                                                                                                                                                                                                                                         1 ARRARVVWAAVG 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         20004
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (202) 638-6666
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  08/724,586
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                                                                                    Lactoferrin
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 56; I
Pred. No. 0
                                                                                                                                                                                                                                                                                                                                                                                                                             0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DB 3; Length 694;
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US-08-655-640-2
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Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GENERAL INFORMATION:
APPLICANT: Teng, Christina
APPLICANT: Panella, Timothy J.
TITLE OF INVENTION: HUMAN LACTOFERRIN
NUMBER OF SEQUENCES: 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TELEPHONE: (202) 638-6666
TELEPAX: (202) 393-5350
INFORMATION FOR SEQ ID NO: 2:
                                                                                                                                                                                     MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
FILING DATE: December 17,
ATTORNEY/AGENT INFORMATION:
NAMB: SCOTT, WATSON T.
REGISTRATION NUMBER: 26,58
                                                                                CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/992,538
                                                                                                                                                                                                                                                                          ZIP: 20005-3918
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                  CORRESPONDENCE ADDRESS:
ADDRESSEE: CUSHMAN, DARBY & CUSHMAN
STREET: 1100 NEW YORK AVE. N.W., NINTH FLOOR
                                                                                                                                                   FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                  STREET: 1100 NEW CITY: WASHINGTON
                                                                                                                                                APPLICATION NUMBER: US/0 FILING DATE: 30-MAY-1996
                                                                                                                                                                                                                                                                                                                                           COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TOPOLOGY: linear MOLECULE TYPE: protein SEQUENCE DESCRIPTION: SEQ ID NO: 2:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER: US/08/724,586
FILING DATE: 30-SEPT-1996
APPLICATION NUMBER: US 08/238,445
FILING DATE: 05-MAY-1994
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE CHARACTERISTICS:
LENGTH: 694 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RAME: Player, William E.
REGISTRATION NUMBER: 31.409
REFERENCE/DOCKET NUMBER: 10505/P58185C
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICATION NUMBER: US/09/932,190
FILING DATE: 17-Aug-2001
CLASSIFICATION: «Unknown»
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ZIP: 20004

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS

SOPTWARBE: PATENTIN RElease #1.0, Version #1.25

CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               343 ARRARVVWCAVG 354
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CITY: Washington D.C.
                                                                                                                                                                                                                                                                                                                                               USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       93.3%;
                                                                                                                                                                       US/08/655,640
  26,581
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US-08-655-640-4
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Matches 11; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER READABLE FORM:

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: PAtentin Release #1.0, Vex

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/08/655,640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
                                                                             Query Match
Best Local Similarity
                                                                Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GENERAL INFORMATION:
APPLICANT: Teng, Christina
APPLICANT: Penella, Timothy J
TITLE OF INVENTION: HUMAN LACTOFERRIN
NUMBER OF SEQUENCES: 5
CORRESPONDENCE ADDRESS:
ADDRESSEE: CUSHMAN, DARBY & CUSHMAN
STREET: 1100 NEW YORK AVE. N.W., NINTH FLOOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TELEFAX: (202) 822-0944
TELEX: 6714627 CUSH
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
LENGTH: 705 amino acids
                                                                                                                                                                                                                                                         NAME: SCOTT, WATSON 1. AGESTRATION NUMBER: 26,581
REGISTRATION NUMBER: WTS/F
REFERENCE/DOCKET NUMBER: WTS/F
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION: 022, 861-3000
                                                                                                                                                                                                                          TELEFAX: (202) 822-0944
TELEX: 6714627 CUSH
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                          PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/992,538
FILING DATE: December 17, 1992
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                            SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MOLECULE
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                                                                                                                                            MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICATION NUMBER: US/0 FILING DATE: 30-MAY-1996 CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STREET: 1100 NEW CITY: WASHINGTON
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REFERENCE/DOCKET NUMBER:
                                                                                                                                                             TOPOLOGY:
                                                                                                                                                                                            LENGTH:
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360 ARRARVVWCAVG 371
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                                                                                                                                                                         amino acid
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                   ARRARVVWAAVG 12
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                                                                             93.3%;
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                                                                                                                                                                                                                                                                                                             WTS/5683/98019/SAP
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                                                            Score 56; DB 2
Pred. No. 0.11;
0; Mismatches
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Pred. No. 0
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                                                                                             DB 2;
                                                                1; Indels
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                                                                                             Length 708;
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RESULT 6
US-08-154-019-2
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                                                                       Query Match
Best Local S
Matches 11
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Patent No.
                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICATION NUMBER: US/08/154,019
FILING DATE: 16-NOV-1993
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/461,333
FILING DATE: 05-UN-1995
APPLICATION NUMBER: US 08/077,788
FILING DATE: 15-UN-1993
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/895,956
FILING DATE: 15-UN-1992
PRIOR APPLICATION NUMBER: US 07/619,131
FRICT APPLICATION NUMBER: US 07/619,131
FILING DATE: 27-NOV-1990
PRIOR APPLICATION NUMBER: US 07/444,745
APPLICATION NUMBER: US 07/444,745
ENTITY DATE: 01-DATA:
APPLICATION NUMBER: US 07/444,745
                                                                                                                                                                                                                                                                TELEPHONE: 415-543-96
TELEPAX: 415-543-5043
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GENERAL INFORMATION:
                                                                                                                                                                                                                              SEQUENCE CHARACTERISTICS: LENGTH: 709 amino acid
                                                                                                                                                                                                                                                                                                     NAME: Liebescheutz, Joe O.
REGISTRATION NUMBER: 37,505
REFERENCE/DOCKET NUMBER: 16
TELECOMMUNICATION INFORMATION:
TELEPHONE: 415-543-9600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SOFTWARE: PatentIn Release #1.0, Version #1.25 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy (
COMPUTER: IBM PC com
                                                                                                                                                                                                                                                                                                                                                                                                     ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TITLE OF INVENTION:
TITLE OF INVENTION:
NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CORRESPONDENCE ADDRESS:
                                                                                                                                                                                     TYPE: ami
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MEDIUM TYPE: Ploppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COUNTRY: UZIP: 94105
                                                                                                                                                                                                                                                                                                                                                                                                                           FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ADDRESSEE:
358 ARRARVVWCAVG 369
                                    1 ARRARVVWAAVG 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SSEE: Townsend and Townsend and Crew
T: One Market Plaza, Steuart Tower, Suite 2000
San Francisco
: California
                                                                                           Similarity
                                                                                                                                                                                                     amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Application US/08154019
                                                                                                                                                                                                                                709 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Pieper, Frank
Krimpenfort, Paul J.A.
WENTION: Production of Recombinant Polypeptides
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Strijker, Rein
Heyneker, Herbert L.
Platenburg, Gerald
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Deboer, Herman A.
                                                                           Conservative
                                                                                                                                                                                           linear
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                                                                                                                                                                     protein
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                                                                                           93.3%;
                                                                                                                                                                                                                                                                                                                                                              37,505
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                                                                       Score 56; DB 1; Length 709; Pred. No. 0.11; o; Mismatches 1; Indels
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RESULT 7 US-08-461-333-2

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RESULT 8
US-08-444-167-2
; Sequence 2, Application
; Sequence 0. 6013857
; Patent No. 6013857
; GENERAL IMFORMATION:
    APPLICANT: Deboer,
    APPLICANT: Heyneker
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                                                                                                                                                                                                                                                                                                                                               US-08-461-333-2
                                                                                                                                                                                                                                                                   Query Match.
Best Local S:
Matches 11
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OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION NATA:
APPLICATION NUMBER: US/08/461,333
FILING DATE: 05-UW-10^-
CLASSTEVATOR DS-UW-10^-
                                                                                                                                                                                                                                                                                                                                                                                                                                       TELEFAX: 415-543-5043
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICATION NUMBER: US 08/
FILING DATE: 15-UTN-1993
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/
FILING DATE: 15-UTN-1992
PRIOR APPLICATION NUMBER: US 07/
APPLICATION NUMBER: US 07/
FILING DATE: 27-NOV-1990
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: Platenburg, Gerald
APPLICANT: Lee, Sang He
APPLICANT: Lee, Sang He
APPLICANT: Pieper, Frank
APPLICANT: Krimpenfort, Paul J.A.
TITLE OF INVENTION: Production of Recombinant Polypeptides
TITLE OF INVENTION: by Bovine Species and Transgenic Methods
NUMBER OF SEQUENCES: 38
                                                                                                                                                                                                                                                                                                                                                               TOPOLOGY: 11: MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             REFERENCE/DOCKET NUMBER: 16
TELECOMMUNICATION INFORMATION:
TELEPHONE: 415-543-9600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CLASSIFICATION: 800
PRIOR APPLICATION DATA:
PRIOR APPLICATION NUMBER: US 08/077,788
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CORRESPONDENCE ADDRESS:
ADDRESSEE: Townsend and Townsend and Crew
STREET: One Market Plaza, Steuart Tower, Suite 2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FILING DATE: 01-DEC-1989
ATTORNEY/AGENT INFORMATION:
NAME: Liebescheutz, Joe O.
REGISTRATION NUMBER: 37,505
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRIOR APPLICATION DATA:
APPLICATION NUMBER: 1
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                                                                                                                                                                                                                                                                                                                                                                                                                     LENGTH:
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                                                                                                                                                                                           358 ARRARVVWCAVG 369
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                                                                                                                                                                                                                                                                 l Similarity 91.7
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                                                                                                                                                                                                                                                                                                                                                                               : 709 amino acids amino acid 
GY: linear
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                                                                                                 Application US/08464167
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     Heyneker, Herbert L.
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Heyneker, Herbert L.
                   Strijker,
                                         Deboer, Herman A.
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                                                                                                                                                                                                                                                                                                                                                             protein
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91.7%;
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                                                                                                                                                                                                                                                                   Score 56; DB 1; Length 709; Pred. No. 0.11; 0; Mismatches 1; Indels
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                                                                                                                                                                                                                               US-09-158-313-2
                                                                                                                                                                                          Sequence
Patent No
                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local 9
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                                                                                                                                GENERAL INFORMATION:
APPLICANT: Deboer
APPLICANT: Strijk
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PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/619,131
FILING DATE: 27-NOV-1990

PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/444,745
FILING DATE: 01-DEC-1989
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TELEFAX: 415-543-5043
INFORMATION FOR SEQ ID NO:
                                     APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                          tent No.
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APPLICANT: Pieper, Frank
APPLICANT: Krimpenfort, Paul J.A.
TITLE OF INVENTION: Production of Recombinant Polypeptides
TITLE OF INVENTION: by Bovine Species and Transgenic Method
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CLASSIFICATION: 800
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/077,788
FILING DATE: 15-UN-1993
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/895,956
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COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE CHARACTERISTICS:
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TELECOMMUNICATION INFORMATION:
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ADDRESSE: Townsend and Townsend and Crew
STREET: One Market Plaza, Steuart Tower, &
CITY: San Francisco
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LENGTH: 709 amino acids
TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NAME: Liebescheutz, Joe O. REGISTRATION NUMBER: 37,50
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TOPOLOGY:
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    Application US/09158313

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                                                                   Deboer, Herman A.
Strijker, Rein
Heyneker, Herbert L.
Platenburg, Gerald
Lee, Sang He
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Lee, Sang He
Pieper, Frank
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91.7%;
   by Bovine Species and Transgenic Methods
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CORRESPONDENCE ADDRESS:
ADDRESSE: Townsend and Townsend and Crew
STREET: One Market Plaza, Steuart Tower, Suite 2000
CITY: San Francisco

California

NUMBER OF SEQUENCES:

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US-08-476-798-2
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity
                                                                                                                                                                                                    GENERAL INFORMATION:
APPLICANT: Deboer, Herman A.
APPLICANT: Strijker, Rein
APPLICANT: Heyneker, Herbert L.
APPLICANT: Platenburg, Gerald
APPLICANT: Lee, Sang He
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INFORMATION FOR SEQ ID NO: 2:
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PRIOR APPLICATION UMBER: US 07/619,131
FILING DATE: 27-NOV-1990
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/444,745
APPLICATION NUMBER: US 07/444,745
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATTORNEY/AGENT INFORMATION:
NAME: Liebescheutz, Joe O.
REGISTRATION NUMBER: 37,505
REFERENCE/DOCKET NUMBER: 16994-003125
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE CHARACTERISTICS:
LENGTH: 709 amino acids
TYPE: amino acid
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APPLICATION NUMBER: US 07/895,956
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CLASSIFICATION:
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/158,313
                                                                                               APPLICANT: Pieper, Frank
APPLICANT: Krimpenfort, Paul J.A.
TITLE OF INVENTION: Production of Recombinant Polypeptides
TITLE OF INVENTION: by Bovine Species and Transgenic Methods
NUMBER OF SEQUENCES: 38
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MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                CORRESPONDENCE ADDRESS:
ADDRESSEE: Townsend and Townsend and Crew STREET: One Market plaza, Steuart Tower, Suite 2000 CITY: San Francisco STATE: California
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Lee, Sang He
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US-08-145-681-2
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CLASSIFICATION: 800
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/077,788
FILING DATE: 15-UTW-1993
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/895,956
FILING DATE: 15-UTW-1992
                                                                                                                                                                                                                                                                                                                                                                                        Patent No.
                                                                                                                                                                                                                                                                                                                                                                                                       Sequence
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Best Local Similarity
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INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
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ZIP: 94105
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy d.
COMPUTER: IBM PC comp.
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0,
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                           APPLICANT: May, Gregory S.
TITLE OF INVENTION: Produc
TITLE OF INVENTION: and La
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NAME: Liebescheutz, Joe O.
REGISTRATION NUMBER: 37,505
REFERENCE/DOCKET NUMBER: 165
TELECOMMUNICATION INFORMATION:
TELEPHONE: 415,543,9600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FILING DATE: 15-JUN-1992
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/619,131
FILING DATE: 27-NOV-1990
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/444,745
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/476,798
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FILING DATE: 01-DEC-1989
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                 APPLICANT:
                                                                                                                                                                                                                                                                                                                                    APPLICANT:
                                                                                                                                                                                                            CORRESPONDENCE ADDRESS:
                                                                                                                                       STREET: 910 Lon
CITY: Houston
STATE: Texas
                                                                                                                                                                                                                                UMBER OF SEQUENCES:
                                                                                                         COUNTRY: U
ZIP: 77002
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                                                                                                                                                                                             ADDRESSEE:
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                                                                                                                                                                                                                                                                                                                                                                                          2, Application US/08145681
5. 5571691
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       : 709 amino acids
amino acid
GY: linear
                                                                                                                                                                          E: Baker & Botts, L.L.P.
910 Louisiana St
                                                                                                                                                                                                                                                                                                              Conneely, Orla M. Headon, Denis R. O'Malley, Bert W.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             7: 415-543-9600
415-543-5043
                                                                                                                      USA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  93.3%;
                                                                                                                                                                                                                                             Production of Recombinant Lactoferrin
and Lactoferrin Polypeptides Using cD
Various Organsims
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                    Version #1.25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DB 3;
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RESULT 12
US-08-250-308-2
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US-08-145-681-2
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Best Local Similarity
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Patent No. 5571896 5571896
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INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
TELEFAX: 7136515246
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
LENGTH: 711 amino acids
                                                                                                    FILING DATE:
CLASSIFICATION: 530
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/873,304
FILING DATE: 24-APR-1992
ATTORNEY/AGENT INFORMATION:
NAME: Adler Ph.D., Benjamin A.
REGISTRATION NUMBER: 35,423
REPERENCE/DOCKET NUMBER: D5456
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GENERAL INFORMATION:
                                                                                                                                                                                                                                                               COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/250,308
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: Conneely, Orla M.
APPLICANT: Headon, Denis R.
APPLICANT: O'Malley, Bert W.
TITLE OF INVENTION: Production of Recombinant Human
TITLE OF INVENTION: Lactoferrin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ANTI-SENSE: NO ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MOLECULE TYPE: protein HYPOTHETICAL: YES
                                                                     TELECOMMUNICATION INFORMATION: TELEPHONE: 7136515587
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CORRESPONDENCE ADDRESS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REFERENCE/DOCKET NUMBER: 29,
                                                                                                                                                                                                                                                                                                                                                                                                       COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                              CITY: Houston
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICATION NUMBER: FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TOPOLOGY:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                360 ARRARVVWCAVG 371
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RATION NUMBER: 29,329
                                                                                                                                                                                                                                                                                                                                                                                                                          Texas
                                                                                                                                                                                                                                                                                                                                                                                                                                                             E: Fulbright & Jaworski Patent Department
1301 McKinney St.
                                                                                                                                                                                                                                                                                                                                                                                                           USA
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713/229/1522
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; MOLECULE TYPE: US-08-154-019-4
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Patent No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches
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Best Local (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GENERAL INFORMATION:
                                                                                                                                                                                                                                                                               APPLICATION NUMBER: US 07/
FILING DATE: 15-UTW-1992
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/
FILING DATE: 27-NOV-1990
PRIOR APPLICATION DATA:
                                                                TELEFAX: 415-543-5043
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 711 amino acid
                                                                                                                                                                                                                                                                                                                                                                                 APPLICATION NUMBER: US 08/461,333
FILING DATE: 05-UWN-1995
APPLICATION NUMBER: US 08/077,788
FILING DATE: 15-UWN-1993
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                            APPLICATION NUMBER: US 07/444,745 FILING DATE: 01-DEC-1989 ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                            CLASSIFICATION: 435
PRIOR APPLICATION NUMBER: U
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CORRESPONDENCE ADDRESS:
ADDRESSEE: Townsend and Townsend and Crew
STREET: One Market Plaza, Steuart Tower, Suite 2000
                                                                                                                                         TELECOMMUNICATION INFORMATION: TELEPHONE: 415-543-9600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: Krimpenfort, Paul J.A.
TITLE OF INVENTION: Production of Recombinant Polypeptides
TITLE OF INVENTION: by Bovine Species and Transgenic Methods
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMPUTER: IBM PC
OPERATING SYSTEM:
                                TYPE: amino acid . TOPOLOGY: linear
                                                                                                                                                                                          NAME: Liebescheutz, Joe O. REGISTRATION NUMBER: 37,505
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Local Similarity
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                                                                                                                                       TELEPHONE:
                                                                                                                                                                             REFERENCE/DOCKET NUMBER: 16994-003123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        563307
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California
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                                                                 711 amino acids
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Lee, Sang He
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Heyneker, Herbert L.
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SYSTEM: PC-DOS/MS-DOS
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15-JUN-1992
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91.7%;
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Pred. No. 0.11;
0; Mismatches
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Matches

11; Conservative

0; Mismatches

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Gaps

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360 ARRARVVWCAVG 371

ARRARVVWAAVG 12

Query Match
Best Local Similarity

93.3%;

Score 56; DB 1; Pred. No. 0.11;

Length 711; Indels

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1 ARRARVVWAAVG 12
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Search completed: September 1, 2004, 00:18:41 Job time: 8.76 secs

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RESULT 14
US-08-461-333-4
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                                                          Query Match
Best Local (
                                         Matches
                                                                                                                                                                                                                                                                                                                                                                                  CLASSIFICATION: 800
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/077,788
FILING DATE: 15-UUN-1993
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/895,956
FILING DATE: 15-UUN-1992
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/619,131
FILING DATE: 27-NOV-1990
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/444,745
PRILING DATE: 01-DEC-1989
ATTORNEY/AGENT INFORMATION:
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                                                                                                                                                                                                TELEFAX: 415-543-5043
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 711 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/461,333
FILING DATE: 05-UN-1995
                                                                                                                                                                                                                                                                                  TELECOMMUNICATION INFORMATION: TELEPHONE: 415-543-9600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CORRESPONDENCE ADDRESS:
ADDRESSEE: Townsend and Townsend and Crew
STREET: One Market Plaza, Steuart Tower, Suite 2000
CITY: San Francisco
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: Krimpenfort, Paul J.A.
TITLE OF INVENTION: Production of Recombinant Polypeptides
TITLE OF INVENTION: by Bovine Species and Transgenic Methods
                                                                                                                                        MOLECULE TYPE:
                                                                                                                                                                                 LENGTH:
TYPE: a
                                                                                                                                                                                                                                                                                                                         NAME: Liebescheutz, Joe O.
REGISTRATION NUMBER: 37,505
REFERENCE/DOCKET NUMBER: 16994-003123
                                         Local Similarity 91.
nes 11; Conservative
                                                                                                                                                                TOPOLOGY:
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Heyneker, Herbert L.
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                                                                                                                                        protein
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ber, Frank
                                                        93.3%;
91.7%;
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                                      Score 56; DB 1; Length 711; Pred. No. 0.11; 0; Mismatches 1; Indels
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TOPOLOGY: linear
MOLECULE TYPE: protein
HYPOTHETICAL: YES
ANTI-SENSE: NO
ORIGINAL SOURCE:
ORGANISM: H. sapiens
US-08-453-703-2
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                                                                       Matches
                                                                                         Best Local Similarity.
                                                                                                        Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ZIP: 1036

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: PatentIn Release #1.0, Vers

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/08/453,703

FILING DATE: Concurrently herewith
                                                                                                                                                                                                                                                                                                                                            CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION UNMBER: 08/145,68
APPLICATION UNMBER: 28, 1993
ATTORNEY/AGENT INFORMATION:
NAME: Albert P. Halluin
REGISTRATION NUMBER: 25,227
REFERENCE/DOCKST NUMBER: 8206
TELECHMUNICATION INFORMATION:
TELEPHONE: 415-854-3660
TELEPHONE: 415-854-3694
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                              TELEPHONE: 415-854-3660
TELEFAX: 415-854-3694
INFORMATION FOR SEQ ID NO: 2:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: Conneely, Orla M.
APPLICANT: Headon, Denis R.
APPLICANT: O'Malley, Bert W.
APPLICANT: May, Gregory S.
TITLE OF INVENTION: Product:
TITLE OF INVENTION: and Lact
TITLE OF INVENTION: Various
NUMBER OF SEQUENCES: 14
                                                                                                                                                                                                                                                                                         SEQUENCE CHARACTERISTICS:
LENGTH: 711 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COUNTRY:
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                                                                                                                                                                                                                                                                              TYPE:
 360 ARRARVVWCAVG 371
                                                                   11;
                                  1 ARRARVVWAAVG 12
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1155 Avenue of the Americas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conneely, Orla M. Headon, Denis R. O'Malley, Bert W.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       USA
                                                                       Conservative
                                                                                       93.3%;
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                                                                                       Score 56;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Version
                                                                                         0.11;
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                                                                         Indels
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Result
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Maximum DB
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Maximum Match 100%
Listing first 45 su
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Perfect score:
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          Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                      Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      seq length: 0
seq length: 2000000000
          protein search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Published Applications AA:*

1: /cgn2_6/ptodata/2/pubpaa/US07 PUBCOMB.pep:*

2: /cgn2_6/ptodata/2/pubpaa/US06 NEW PUB.pep:*

3: /cgn2_6/ptodata/2/pubpaa/US06 NEW PUB.pep:*

4: /cgn2_6/ptodata/2/pubpaa/US06 PUBCOMB.pep:*

5: /cgn2_6/ptodata/2/pubpaa/US06_PUBCOMB.pep:*

6: /cgn2_6/ptodata/2/pubpaa/US08_NEW PUB.pep:*

7: /cgn2_6/ptodata/2/pubpaa/US08_PUBCOMB.pep:*

9: /cgn2_6/ptodata/2/pubpaa/US08_PUBCOMB.pep:*

9: /cgn2_6/ptodata/2/pubpaa/US09A_PUBCOMB.pep:*

10: /cgn2_6/ptodata/2/pubpaa/US09A_PUBCOMB.pep:*

11: /cgn2_6/ptodata/2/pubpaa/US09C_PUBCOMB.pep:*

12: /cgn2_6/ptodata/2/pubpaa/US09C_PUBCOMB.pep:*

13: /cgn2_6/ptodata/2/pubpaa/US09C_PUBCOMB.pep:*

14: /cgn2_6/ptodata/2/pubpaa/US09C_PUBCOMB.pep:*

15: /cgn2_6/ptodata/2/pubpaa/US00_NEW_PUB.pep:*

16: /cgn2_6/ptodata/2/pubpaa/US10C_PUBCOMB.pep:*

17: /cgn2_6/ptodata/2/pubpaa/US10C_PUBCOMB.pep:*

18: /cgn2_6/ptodata/2/pubpaa/US10C_PUBCOMB.pep:*

19: /cgn2_6/ptodata/2/pubpaa/US10C_PUBCOMB.pep:*

16: /cgn2_6/ptodata/2/pubpaa/US10C_PUBCOMB.pep:*

17: /cgn2_6/ptodata/2/pubpaa/US10C_PUBCOMB.pep:*

18: /cgn2_6/ptodata/2/pubpaa/US10C_PUBCOMB.pep:*
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Match Length
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1 ARRARVVWAAVG 12
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        GenCore version 5.1.6 Copyright (c) 1993 - 2004 Compugen Ltd
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137.988 Million cell updates/sec
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US-10-169-297-49
US-10-076-816-4
US-10-077-381-4
US-10-639-335-4
US-10-169-297-9
US-10-170-221-2
US-10-341-434-208
US-10-341-434-218
US-10-440-464-69
US-10-408-765A-2000
US-10-169-297-8
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Sequence 9, Appli
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Sequence 35, Appli
Sequence 8, Appli
Sequence 10952, A
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-09-978-544A-35	9-978-299A-3	-09-999-829A-35	-09-978-194A-35	-09-978-681A-35	-09-978-188A-35	-09-978-298A-35	-09-978-375A-35	-09-978-643A-35	-09-978-187B-35	-09-978-757A-35	-09-999-830A-35	-09-978-193A-35	-09-978-423A-35	09-918-585A-35	-09-978-824-35	-09-981-915A-35	-09-999-833A-35	US-09-978-564A-358	S-09-978-403A-35	09-978-191A-35	S-09-978-585A-35	S-09-978-608A-35	-09-978-189-35	-09-999-832A-35	-978-192A-35	-09-978-697-35	-09-978-295A-35	S-10-437-963-11337	S-10-437-963-15	-
equence 358	equence 358,	equence 358,	equence 358,	equence 358,	equence 358,	equence 358,	equence 358,	equence 358,	equence 358,	equence 358,	equence 358,	equence 358,	equence 358,	equence 358,	equence 358,	equence 358,	equence 358,	nce 358,	equence 358,	equence 358,	equence 358,	equence 358,	equence 358,	equence 358,	quence 358,	equence 358,	equence 358,	Sequence 113	equence 1	

## ALIGNMENTS

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APPLICANT: Tohdoh, Maoki
APPLICANT: Tohdoh, Masashi
APPLICANT: Enjoji, Takashi
ITITLE OF INVENTION: Preventives and Remedies for Chronic
ITITLE OF INVENTION: Hepatitis
FILE REFERENCE: 3435.1000-000
CURRENT APPLICATION NUMBER: US/10/169,297
CURRENT FILING DATE: 2002-10-31
PRIOR APPLICATION NUMBER: PCT/JP00/09393
PRIOR RPILING DATE: 2009-12-28
PRIOR APPLICATION NUMBER: JP 11/374087
PRIOR APPLICATION NUMBER:
US-10-76-816-4
US-10-706-816-4
; Sequence 4, Application US/10076816
; Publication No. US20030056244A1
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US-10-169-297-49
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Best Local S
Matches 11
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                                                                                                                                                                                                                                                                                        114 ARRARVVWCÁVG 125
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  al Similarity 91.7
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Pred. No. 0.19
0; Mismatches
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US-10-639-835-4
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; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-077-381-4
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                      RESULT 4
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PRIOR FILING DATE: 2001-02-14
PRIOR PEPLICATION UNUMBER: US 09/847,232
PRIOR FILING DATE: 2001-05-02
PRIOR APPLICATION NUMBER: US 60/266,929
PRIOR FILING DATE: 2001-02-06
PRIOR APPLICATION NUMBER: US 60/201,182
PRIOR APPLICATION NUMBER: US 60/201,182
PRIOR FILING DATE: 2000-05-02
NUMBER OF SE0 ID NOS: 60
SOFTWARE: FastSEQ for Windows Version 4.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 4, Application US/10077381
Publication No. US20030074700A1
GENERAL INFORMATION:
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                                                                                                                                                                     Matches
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APPLICANT: Huang, Ning
                                                                                                                                                                                                         Query Match
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                                                                                                                                                                                                                                                                                                                                                                                                                                        PRIOR APPLICATION NUMBER: US 60/269,199
PRIOR FILING DATE: 2001-02-14
PRIOR APPLICATION NUMBER: US 09/847,232
PRIOR FILING DATE: 2001-05-02
PRIOR APPLICATION NUMBER: US 60/266,929
PRIOR FILING DATE: 2001-02-06
PRIOR FILING DATE: 2001-02-06
                                                                                                                                                                                                                                                                                                                                                                              PRIOR APPLICATION NUMBER: US 60/201,182
PRIOR FILING DATE: 2000-05-02
NUMBER OF SEQ ID NOS: 33
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: Rodriguez, Raymond
APPLICANT: Hagie, Frank E.
TITLE OF INVENTION: Expression of Human Milk Proteins in
TITLE OF INVENTION: Transgenic Plants
FILE REFERENCE: 50665-8022.US00
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CURRENT APPLICATION NUMBER: US/10/077,381
CURRENT FILING DATE: 2002-02-14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FILE REFERENCE: 50665-8021.US00
CURRENT APPLICATION NUMBER: US/10/076,816
CURRENT FILING DATE: 2002-02-14
                                                                                                                                                                                                                                                                                                                                                        SOFTWARE: FastSEQ for Windows Version 4.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: Huang, Ning
APPLICANT: Rodriguez,
APPLICANT: Hagie, Fran
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LENGTH: 690
TYPE: PRT
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: Hagie, Frank E.
TITLE OF INVENTION: Feed Additive Compositions and Methods
                                                                                                                                                                                                                                                                                                                                        ID NO 4
                                                                                                                                                                                       Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Local
                                                                                  339 ARRARVVWCAVG 350
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                                                                                                                                                                l Similarity 91.7
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11; Conserv
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                                                                                                                                                                                       93.3%;
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91.7%; Pred. No. 0.35;
tive 0; Mismatches
                                                                                                                                                                   Score 56; DB 1
Pred. No. 0.35;
0; Mismatches
                                                                                                                                                                                                         DB 14; Length 690;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRIOR APPLICATION NUMBER: US 10/077,381
PRIOR FILING DATE: 2002-02-14
PRIOR FILING DATE: 2002-02-14
PRIOR PLICATION NUMBER: US 60/269,199
PRIOR PLICATION NUMBER: US 09/847,232
PRIOR PLICATION NUMBER: US 60/266,929
PRIOR PLICATION NUMBER: US 60/266,929
PRIOR PLICATION NUMBER: US 60/201,182
PRIOR PILING DATE: 2001-02-06
PRIOR PILING DATE: 2000-05-02
PRIOR FILING DATE: 2000-05-02
PRIOR FILING DATE: 2000-05-02
PRIOR FILING DATE: 2000-05-02
PRIOR FILING DATE: 2000-05-02
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Best Local Similarity
Matches 11; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SOFTWARE: FastSEQ for Windows Version 4.0 SEQ ID NO 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 2,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TITLE OF INVENTION: Expression of Human Milk Proteins TITLE OF INVENTION: Transgenic Plants FILE REFERENCE: 50665-8022.US01
CURRENT APPLICATION NUMBER: US/10/639,835
CURRENT FILING DATE: 2003-08-12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: Huang, Ning
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TYPE: PRT CRGANISM: Homo sapiens
                                                                                                                                                                     SOFTWARE: PatentIn Release #1.0,
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/10/023,090
FILING DATE:
CLASSIFICATION:
         FILING DATE: 05-MAI-1...
ATTORNEY/AGENT INFORMATION:
Dlaver, William E.
                                                                            PRIOR APPLICATION DATA:
APPLICATION NUMBER: US/08,
FILING DATE: 30-SEPT-1996
APPLICATION NUMBER: US 08,
                                                                                                                                                                                                                                                                           COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                    CORRESPONDENCE ADDRESS:
ADDRESSEE: Jacobson, Price,
STREET: 400 Seventh St. N.W.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: Kurecki, Tomasz
APPLICANT: Gollnick, Paul D.
APPLICANT: Doyle, Darrell J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LENGTH: 690
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TITLE OF INVENTION: Cloning, Expression, and Uses of Human TITLE OF INVENTION: Lactoferrin
                                                                                                                                                                                                                                                                                                                                                                                                                  CITY: Washington D.C.
REGISTRATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                               COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  INFORMATION
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No. US20020160941A1
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Hagie, Frank E.
                                                                                                                                                                                                                                                                                                                                                                                             U.S.A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            93.3%;
                                                                                      US 08/238,445
                                                                                                                             US/08/724,586
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31,409
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Pred. No. 0.35;
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RESULT 6
US-10-170-221-2
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INFORMATION FOR SEQ ID NO: 2
SEQUENCE CHARACTERISTICS:
LENGTH: 694 amino acids
                TELEFAX: 415-543-5043 INFORMATION FOR SEQ ID NO: 2: SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                           COMPUTER REALABLE FORM:

MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: BM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOTWARE: PACENTIN Release #1.0, Ver
SOTWARE: PACENTIN RELEASE #1.0, Ver
APPLICATION NUMBER: US/10/170,221
FILING DATE: 11-7un-2002
CLASSIFICATION: <Unknown>
PRIOR APPLICATION DATA:
                                                                                                                                                                      APPLICATION NUMBER: US/08/476,798
FILING DATE: 07-JUN-1995
APPLICATION NUMBER: US 08/077,788
FILING DATE: 15-JUN-1993
APPLICATION NUMBER: US 07/895,956
FILING DATE: 15-UN-1992
APPLICATION NUMBER: US 07/619,131
FILING DATE: 27-NOV-1990
APPLICATION NUMBER: US 07/444,745
FILING DATE: 01-DEC-1989
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TELEPHONE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    REFERENCE/DOCKET NUMBER:
                                                                         NAME: Liebescheutz, Joe O.
REGISTRATION NUMBER: 37,505
REFERENCE/DOCKET NUMBER: 16994-003125
TELECOMMUNICATION INFORMATION:
TELEPHONE: 415-543-9600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CORRESPONDENCE ADDRESS:
ADDRESSEE: Townsend and Townsend and Crew
STREET: One Market Plaza, Steuart Tower, Suite 2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Pieper, Frank
Rimpenfort, Paul J.A.
Krimpenfort, Paul J.A.
TITLE OF INVENTION: Production of Recombinant Polypeptides
by Bovine Species and Transgenic Methods
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   343
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GY: linear
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STATE: California
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Heyneker, Herbert L.
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Pred. No.
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SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 9
LENGTH: 711
TYPE: PRT
ORGANISM: Homo sapiens
US-10-169-297-9
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APPLICANT: TOMOCHAI
APPLICANT: MUTATA, MASSAH
APPLICANT: Enjoj; Takashi
APPLICANT: Enjoj; Takashi
TITLE OF INVENTION: Preventives and Remedies for
TITLE OF INVENTION: Hepatitis
FILE REFERENCE: 3435.1000-000
CURRENT APPLICATION UNMBER: US/10/169,297
CURRENT FILING DATE: 2002-10-31
PRIOR APPLICATION NUMBER: PCT/P00/09393
PRIOR APPLICATION NUMBER: JP 11/374087
PRIOR APPLICATION NUMBER: JP 11/374087
PRIOR FILING DATE: 1999-12-28
PRIOR FILING DATE: 1999-12-28
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SEQUENCE DESCRIPTION: SEQ ID NO: 2:
US-10-170-221-2
                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 8
US-10-170-221-4
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Publication No. US20030171276A1
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Best Local Similarity
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Local Similarity 91.7%;
ZIP: 94105
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
                                                                                                                   CORRESPONDENCE ADDRESS:
ADDRESSEE: Townsend and Townsend and Crew
STREET: One Market Plaza, Steuart Tower,
                                                                                                                                                                                               Krimpenfort, Paul J.A.
TITLE OF INVENTION: Production of Recombinant Polypeptides
by Bovine Species and Transgenic Methods
                                                                                                                                                                                 NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                              APPLICANT: Deboer, Herman A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            358 ARRARVVWCAVG 369
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                                                             STATE: California COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TYPE: amino acid
                                                                                                   CITY: San Francisco
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Lee, Sang He
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Heyneker, Herbert
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                                                                                                                        Tower, Suite 2000
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Length 711;

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Gaps

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MOLECULE TYPE: protein

SEQUENCE DESCRIPTION: SEQ ID NO: 4:
US-10-170-221-4
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US-10-341-434-202
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                                                                                                                                                              ; ORGANISM: Homo sapiens
US-10-341-434-202
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                                                                                                                                                                                                                        SEQ ID NO 202
LENGTH: 711
                                                                                 Matches
                                                                                                                       Query Match
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Best Local
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TITLE OF INVENTION: Differentially Regulated Prostate Cancer Genes
FILE REFERENCE: 9U 204 205 R1
CURRENT APPLICATION NUMBER: US/10/341,434
CURRENT FILING DATE: 2003-07-18
PRIOR APPLICATION NUMBER: US 60/348,164
PRIOR PILING DATE: 2002-01-15
PRIOR APPLICATION NUMBER: US 60/348,119
PRIOR APPLICATION NUMBER: US 60/348,119
PRIOR APPLICATION NUMBER: US 60/348,119
                                                                                                                                                                                                                                                              NUMBER OF SEQ ID NOS: 238
SOFTWARE: PatentIn version 3.1
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                                                                                                    Local
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OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
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LENGTH: 711 amino acids
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  360 ARRARVVWCAVG 371
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                                        1 ARRARVVWAAVG 12
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                                                                                                    Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NAME: Liebescheutz, Joe O.
REGISTRATION NUMBER: 37,505
REFERENCE/DOCKET NUMBER: 16994-003125
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICATION NUMBER: US 07/895,956
FILING DATE: 15-JUN-1992
APPLICATION NUMBER: US 07/619,131
FILING DATE: 27-NOV-1990
APPLICATION NUMBER: US 07/444,745
FILING DATE: 01-DEC-1989
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TELEFAX: 415-543-5043
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICATION NUMBER: US 08/077,788 FILING DATE: 15-JUN-1993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICATION DATA:
APPLICATION NUMBER: US/08/476,798
FILING DATE: 07-JUN-1995
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                                                                                 Conservative
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                                                                                                  93.3%;
                                                                                                  Score 56; DB 15; Length 711; Pred. No. 0.36;
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                                                                                                                                                    ; TYPE: PRT; ORGANISM: Homo sapiens US-10-440-464-69
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US-10-341-434-218
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Best Local S
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SEQ ID NO 218
LENGTH: 711
TYPE: PRT
                                                                                                                                                                                                                           SOFTWARE: Patentin Ver. 2.1 SEQ ID NO 69
                                                                           Matches
                                                                                           Query Match
Best Local
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                                                                                                                                                                                                                                                             TITLE OF INVENTION: NOVEL BIOMARKERS OF TYROSINE KINASE INHIBITOR EXPOSURE TITLE OF INVENTION: AND ACTIVITY IN MAMMALS FILL REFERENCE: 038602/5.592
CURRENT APPLICATION NUMBER: US/10/440,464
CURRENT FILING DATE: 2003-05-19
PRIOR APPLICATION NUMBER: 60/380,872
PRIOR FILING DATE: 2003-05-17
PRIOR PILING DATE: 2003-05-17
PRIOR APPLICATION NUMBER: 60/448,922
PRIOR FILING DATE: 2003-02-24
PRIOR APPLICATION NUMBER: 60/448,874
PRIOR APPLICATION NUMBER: 60/448,874
PRIOR FILING DATE: 2003-02-24
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Publication No. US20030215835A1
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APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: OriGene Technologies
TITLE OF INVENTION: Differentially Regulated Prostate Cancer Genes
FILE REFERENCE: 9U 204 205 R1
CURRENT APPLICATION NUMBER: US/10/341,434
CURRENT FILLING DATE: 2003-07-18
PRIOR APPLICATION NUMBER: US 60/348,164
PRIOR FILING DATE: 2002-01-15
PRIOR FILING DATE: 2002-01-15
PRIOR PRIOR PRIOR OF SEQ ID NOS: 238
NUMBER OF SEQ ID NOS: 238
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT:
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360 ARRARVVWCAVG 371
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                                    1 ARRARVVWAAVG 12
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CHERRINGTON, JUL
CHERRINGTON, JUL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SMOLICH, BEVERLY MANNING, WILLIAM WALTER, SARAH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            O'FARRELL, ANNE-MARIE
MORIMOTO, ALYSSA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SCHILLING,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Application US/10440464
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                                                                           Conservative
                                                                                           93.3%;
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Pred. No. 0.36;
0; Mismatches
                                                                           0; Mismatches
                                                                                           Pred. No. 0.36;
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                                                                                                             Length 711;
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US-10-408-765A-2000

Sequence 2000, Publication No.

Application US/10408765A US20040101874A1

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CURRENT APPLICATION NUMBER: US/10/408,765A; CURRENT FILING DATE: 2003-04-04; NUMBER OF SEQ ID NOS: 3077; SOPTWARE: FASTSEQ for Windows Version 4.0; SEQ ID NO 2000; SEQ ID NO 2000; LENGTH: 711; TYPE: PRT; ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                            Sequence 35, Application US/10169297

Publication No. US20030171276A1

GENERAL INFORMATION:

APPLICANT: Tohdoh, Nacki

APPLICANT: Murata, Masashi

TITLE OF INVENTION: Preventives and Remedies for Chronic

TITLE OF INVENTION: Hepatitis

FILE REFERENCE: 3435.1000-000

CURRENT APPLICATION NUMBER: US/10/169,297

CURRENT FILING DATE: 2002-10-31

PRIOR APPLICATION NUMBER: PCT/JP00/09393

PRIOR APPLICATION NUMBER: PCT/JP00/09393

PRIOR APPLICATION NUMBER: JP1/374087

PRIOR APPLICATION NUMBER: JP 11/374087

PRIOR FILING DATE: 1999-12-28

NUMBER OF SEQ ID NOS: 50

SOFTWARE: FastSEQ for Windows Version 4.0

SEQ ID NO 35

LENGTH: 234

TYPE: PRT

CTANTON NUMBER: PRT SERVICES
                                                        RESULT 14
US-10-169-297-8
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US-10-169-297-35
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                                                                                                                                                                                                                                                                                              ; ORGANISM: Bos taurus
US-10-169-297-35
Sequence 8, Application US/10169297 Publication No. US20030171276A1 GENERAL INFORMATION:
                                                                                                                                                                                                                                    Query Match
Best Local (
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Best Local (
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APPLICANT: Taylor, Steven W.
APPLICANT: Glenn, Gary M.
APPLICANT: Warnock, Dale E.
TITLE OF INVENTION: TARGETS FOR THERAPEUTIC INTERVENTION
TITLE OF INVENTION: IDENTIFIED IN THE MITOCHONDRIAL PROTEOME
FILE REFERENCE: 660088.465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: Ghosh, Soumitra S.
APPLICANT: Fahy, Eoin D.
APPLICANT: Zhang, Bing
APPLICANT: Gibson, Bradford |
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             360 ARRARVVWCAVG 371
                                                                                                                                       71 ARYTRVVWCAVG 82
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11; Conserv
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                                                                                                                                                                          1 ARRARVVWAAVG 12
                                                                                                                                                                                                             Similarity
9; Conserv
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75.0%;
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Pred. No. 0.
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                                                                                                                                                                                                                                                     DB 14; Length 234;
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Search completed: September Job time: 29.36 secs

2004, 00:49:24

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APPLICANT: Murata, Masasai
APPLICANT: Enjoji, Takashi
TITLE OF INVENTION: preventives and Remedies for
TITLE OF INVENTION: Hepatitis
FILE REFERENCE: 3435.1000-000
CURRENT APPLICATION NUMBER: US/10/169,297
CURRENT APPLICATION NUMBER: PCT/JP00/09393
PRIOR APPLICATION NUMBER: PCT/JP00/09393
PRIOR APPLICATION NUMBER: JP 11/374087
PRIOR APPLICATION NUMBER: JP 11/374087
PRIOR APPLICATION NUMBER: JP 12-28
NUMBER OF SEQ ID NOS: 50
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 8
LENGTH: 708
TYPE: PRI
ORGANISM: Bos taurus
US-10-169-297-8
뭉
                                                                                                                                                      ; ORGANISM: Streptomyces avermitilis US-10-156-761-10952
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US-10-156-761-10952
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                                                                                                                                                                                                                                                  APPLICANT: SHIBA, TADAYOSHI
APPLICANT: SAKAKI, YOSHIYUKI
APPLICANT: HATTORI, MASAHIRA
TITLE OF INVENTION: NOVEL POLYNUCLECTIDES
FILE REFERENCE: 249-262
CURRENT FILLING DATE: 2002-05-29
PRIOR APPLICATION NUMBER: US/10/156,761
CURRENT FILLING DATE: 2001-05-30
PRIOR FILLING DATE: 2001-05-30
PRIOR APPLICATION NUMBER: JP 2001-272697
PRIOR FILING DATE: 2001-08-02
NUMBER OF SEQ ID NOS: 15109
                                                                                                                                                                                           SEQ ID NO 10952
LENGTH: 254
TYPE: PRT
                                                                             Matches
                                                                                             Query Match
Best Local (
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APPLICANT: KEDA, HARUO
APPLICANT: ISHIKAWA, JUN
APPLICANT: HORIKAWA, HIROSHI
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Local Similarity 75.0%;
nes 9; Conservative
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                                                                         Similarity
8; Conserv
ARRARTVWLA
                                 ARRARVVWAA 10
                                                                           Conservative
42
                                                                                             68.3%;
80.0%;
                                                                                             Score 41; DB 14; Length 254; Pred. No. 46;
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A; Molecule type: protein A; Residues: 20-28, 'X', 30-31 <st2></st2>	2 S76626 ABC-type 2 T30222 sensory p	60.	28 29
;Residues: 20-1; Accession: S20	48 2 F86615 cytosin 55 2 E72007 cytosin	60.	26 27
ul:	2 A26581 beta-gluc 2 AH1642 hypotheti	37 61.7 36 60.0	24 25
A;Accession: S15853	NK	61.	23
A; Title: Expression of cloned human	2 AB2700 typothetical pro	3 E E	200
R;CtOssTeletatices browning of R; R;Stowell, K.M.; Rado, T.; Funk, Biochem T 376 340-355 1001	A75503 Approchetical prot	2 E	900
A; Residues: 3-711 < POW>	2 T12816 hypothetical prot	61.	17
A;Accession: S10324 A;Molecule type: mRNA	2 A87590 nypothetical prot 2 F72507 hypothetical prot	61.	16 16
number:	2 T02260 beta-fructofurano	3 8 8	, 1 , 1 & (
Nucleic Acids Res. 18, 4013, 1990 A:Title: Nucleotide segmence of hum	2 F72563 2 AF3466	5.5	12
R; Powell, M.J.; Ogden, J.E.	2 JC7906	65.	11
A; Experimental source: placenta	1 IDECRP replicat:	0.00	, ,
A; Cross-references: GB: S52659; NID:	N	66.	80 ~
A; Molecule type: DNA	1 A28438 lactoferrin precu	71.	1 0/
A;Accession: A45401	2 T46684 p-hydroxybe	71.	<b>σ</b> .
A;Title: Differential molecular med	1 TEBOL Lactotransi	72.	Δ (u
Mol. Endocrinol. 6, 1969-1981, 1992	2 A45543 la	81.	2
R;Teng, C.T.; Liu, Y.; Yang, N.; Wa	1 TFHUL lactotransf	93.	  -  -  -  -
A; Molecule type: mRNA A; Residues: 1-148; 'T', 150-422, 'C', 4	Length DB ID Description	Query core Match	Result No. S
A;Reference number: S11228; MUID:90 A;Accession: S11228	SUMVARIES	ap	
A; Title: Complete nucleotide sequen			
A;Cross-references: EMBL:U07643; NI R;Rey, M.W.; Woloshuk, S.L.; deBoer Nucleic Acids Res. 18, 5288, 1990	e number of results predicted by chance to have a han or equal to the score of the result being printed, by analysis of the total score distribution.	. No. is the greater this derived	Pred. score and in
A; Molecule type: mkNA A; Residues: 1-711 <cho></cho>		••	
A;Accession: Guis94 A;Status: preliminary; translated f	pirs: *		
ted t	Pale   *	. P.I.	Database :
GU1394; SI1228;	first 4	histing	
C; Species: Homo sapiens (man) C; Date: 31-Mar-1992 #sequence revis	Match 0% Match 100%	processing: Minimum Maximum	Post-proce
TFHUL lactotransferrin precursor [validat N.Alternate names: lactofarrin	200000000	<pre>seq length: seq length:</pre>	Minimum DB Maximum DB
RESULT 1	atisfying chosen parameters: 283366	of hits s	Total number
	seqs, 96191526 residues	283366	Searched:
5 35 58.3 133 2	162 10.0 , Gapext 0.5	able: BLOSUM62 Gapop 10	Scoring ta
3 35 58.3 57 2 4 35 58.3 84 2	ARRARVVMAAVG 12	ь;	Sequence:
1 36 60.0 827 2 2 36 60.0 1279 2	-508-095-22	US-09-	Title: Perfect so
37 36 60.0 771 1 WM 38 36 60.0 771 2 B3 39 36 60.0 771 2 B3 40 36 60.0 771 2 H7	per 1, 2004, 00:03:45 ; Search time 6.96 Seconds (without alignments) 165.847 Million cell updates/sec	September	Run on:
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1 36 60.0 497 2 2 36 60.0 501 1 3 36 60.0 507 2	GenCore version 5.1.6 Copyright (c) 1993 - 2004 Compugen Ltd.	Сору	
0 36 60.0 447 2			

hypothetical prote hypothetical prote hypothetical prote hypothetical prote ABC transporter, m hypothetical prote zeaxanthin glucosy hypothetical prote probable amino aci probable aminotran beta-glucuronidase hypothetical prote cytosine deaminase cytosine deaminase aBC-type transport sensory protein ki	lactotransferrin precur lactoferrin precur lactotransferrin p lactotransferrin p lactotransferrin p lactoferrin - goat p-hydroxybenzaldeh lactoferrin precur carbonic anhydrase probable cytochrom replication initia replication-associ sucrose IF-fructos hypothetical prote maltose transport heta-fructofuranos	by chance to have a he result being printed, distribution.  Description	283366	ch time 6.96 Seconds alignments) Million cell updates/sec
A;Accession: \$10324 A;Molecule type: mRNA A;Residues: 3.711 <pre>cPOW &gt; A;Cross-references: EMBL:X52941; NID:g34411; PIDN:CAA37116.1; PID:g34412 A;Cross-references: EMBL:X52941; NID:g34411; PIDN:CAA37116.1; PID:g34412 A;Cross-references: EMBL:X52941; NID:g34411; PIDN:CAA37116.1; PID:g34412 A;Cross-references: EMBL:X52941; NID:g344411; PIDN:CAA37116.1; PID:g34412 A;Cross-references: EMBL:X52941; NID:g344411; PIDN:CAA37116.1; PID:g34412 A;Choose: Agade</pre>	Walmer, D.; Panella, T. 92 echanism of the estrogen acti 93125571; PMID:1480183 93125571; PIDN:AAB24877.1; F CBI backbone (NCBIP:122202) CBI backbone (NCBIP:122202) uman lactoferrin cDNA. 90326549; PMID:2374734	TFHUL Incrotransferrin precursor [validated] - human N;Alternate names: lactoferrin C;Species: Homo sapiens (man) C;Species: Homo sapiens (man) C;Date: 31-Mar-1992 #sequence revision 21-Nov-1997 #text change 08-Dec-2000 C;Accession: G01394; S11228; Ā45401; S10324; S15853; S20841; S07160; A61169; A31000; S74 C;Cho, Y R;Cho, Y Submitted to the EMBL Data Library, March 1994 A;Reference number: G06820 A;Accession: G01394 A;Residues: preliminary; translated from GB/EMBL/DDBJ A;Status: preliminary; translated from GB/EMBL/DDBJ A;Residues: 1-711 <cho> A;Residues: 1-711 <cho> A;Residues: 1-711 <cho> A;Cross-references: EMBL:U07643; NID:9457236; PIDN:AAB60324.1; PID:9467237 R;Rey, M.W.; Woloshuk, S.L.; deBoer, H.A.; Pieper, F.R. Nucleic Acids Res. 18, 5288, 1990 A;Tille: Complete nuclectide sequence of human mammary gland lactoferrin. A;Reference number: S11228 A;Accession: S11228 A;Accession: S11228 A;Accession: S11228; MUID:90384839; FMID:2402455 A;Accession: S1128: EMBL:X53961; NID:934415; PIDN:CAA37914.1; PID:g34416</cho></cho></cho>	ALIGNMENTS	33 36 60.0 507 2 S36478

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lactoferrin precursor - pig
()Species: Sus scrofa domestica (domestic pig)
C)Bate: 17-7eb-1994 #sequence_revision 17-Feb-1994 #text_change 04-Mar-2000
C)Accession: A45543; S24173
R;Alexander, L.J.; Levine, W.B.; Teng, C.T.; Beattie, C.W.
Anim. Genet. 23, 251-256, 1992
A;Title: Cloning and sequencing of the porcine lactoferrin cDNA.
A;Reference number: A45543; MUID:92367939; PMID:1503259
A;Accession: A45543; MUID:92367939; PMID:1503259
A;Molecule type: mXNA
A;Residues: 1-703 <ALE>
A;Residues: 1-703 <ALE>
A;Residues: 1-703 <ALE>
A;Residues: 1-703 <ALE>
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A;Residues: 20-140,142-169,171-203,'L',205,'K',207-208,'K',210-385,'Q',387-391,'W',393-
A;Residues: 20-140,142-169,171-203,'L',205,'K',207-208,'K',210-385,'Q',387-391,'W',393-
A;Note: this is the final paper in a series
R;Houen, G.; Hoegdall, E.V.; Barkholt, V.; Norskov, L.
Eur. J. Biochem. 241, 303-308, 1996
A;Title: Lactoferrin: similarity to diamine oxidase and purification by aminohexyl affi
A;Reference number: S74119; MUID:97054624; PMID:8898921
A;Accession: S74119; MUID:97054624; PMID:8898921
A;Residues: 1-703 <ALE>
A;Residues: 1-703 <ALE>
A;Experimental source: mammary gland
A;Note: sequence extracted from NCBI backbone (N
A;Note: sequence extracted from NCBI backbone (N
A;Note: Sequence of NCBI backbone (N
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A45543
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    F;20-711/Product: lactotransferrin #status experimental <MAT>
F;21-356/Domain: transferrin repeat homology <TRH1>
F;36-699/Domain: transferrin repeat homology <TRH2>
F;360-699/Domain: transferrin repeat homology <TRH2>
F;29-65,39-56,135-218,177-193,190-201,251-265,503-697,595-609/Disulfide bonds: #status experimental
F;157,498/Binding site: carbohydrate (Asn) (covalent) #status experimental
F;368-400,378-391,425-706,447-669,479-554,513-527,524-537,647-652/Disulfide bonds: #status
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A;Title: Human lactotransferrin: amino acid sequence and structural comparisons with A;Reference number: A31000; MUID:85076667; PMID:6510420
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Blood 70, 989-993, 1987
A;Title: Isolation of lactoferrin cDNA from a human myeloid library and expression A:Reference number: S07160; MUID:88001031; PMID:3477300
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A; Map position:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A; Cross-references: GDB:119368; OMIM:150210
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Superfamily: transferrin; transferrin repeat homology; Keywords: duplication; glycoprotein; iron binding; milk; 1-19/Domain: signal sequence #status predicted <SIG>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ;Molecule type: mRNA
;Residues: 3-701,'SWKPVN' <PAN>
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Pred. No. 0.031;
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        (NCBIN:111151, NCBIP:111153)
ee, T.; Headon, D.R.; Conneely,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 711;
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A;Molecule type: protein
A;Goodman, R.E.; Schanbacher, F.L.
B;Goodman, R.E.; Schanbacher, F.L.
Biochem. Biophys. Res. Commun. 180, 75-84, 1991
Biochem. Biophys. Res. Commun. 180, 75-84, 1991
A;Title: Bovine lactoferrin mRNA: sequence, analysis, and expression in the mammary glan
A;Reference number: JT0595; MUID:92028986; PMID:1718281
A;Accession: JT0595...
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C;Date: 31.Mar-1992 #sequence revision 21.Nov-1997 #text change 11-May-2000
C;Accession: I45919; S14674; S14110; S18517; JT0595; S13097; S18518; S13881;
R;Tsang, T.C.; Burns, D.K.; Wang, F.; Pan, Y.
RASES J. 6, 233, 1991
A;Title: Cloning of a80-kD advanced glycosylation end product (AGE) binding A;Reference number: I45919
A;Accession: I45919
A;Accession: I45919
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A;Molecule type: mRNA, A;Acelcule type: mRNA, A;Acelcule type: mRNA, A;Reeidues: 1-144, VV, 146-163, PP',166-339, A',341-438, 'Y',440-513, 'R',515-708 A;Reeidues: EMBL:X57084; NID:g505; PIIN:CAAA0366.1; PID:g506 R;Pierce, A.; Colavizza, D.; Benaissa, M.; Maes, P.; Tartar, A.; Montreuil, J.; Eur. J. Biochem. 195, 177-184, 1991 A;Tille: Molecular cloning and sequence analysis of bovine lactotransferrin. A;Reference number: S14110; MUID:91160550; PMID:2001696
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F;354-691/Domain: transferrin repeat homology <TRH2>
F;28-62,38-53,119-61,100 repeat homology <TRH2>
F;28-52,38-53,119-212,171-187,184-195,245-259,362-394,372-385,419-698,439-661,471-546,49
F;77,107,206,267/Binding site: iron (Asp. Tyr. Tyr. His) #status predicted
F;135/Binding site: carbonate (Arg) #status predicted
F;409,447,540,609/Binding site: iron (Asp. Tyr. Tyr. His) #status predicted
F;497/Binding site: carbonate (Arg) #status predicted
F;490/Binding site: carbohydrate (Asp.) (covalent) #status predicted
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A,Title: Nucleotide and primary amino acid
A;Reference number: S24173; MUID:92379101;
A;Accession: S24173
A; Molecule type: mRNA
A; Residues: 1-65, 'PG',
A; Cross-references: GE
                                                                                                                                                                                                                                                                                                                                                                                                            A; Molecule type: mRNA
A; Residues: 3-144,'V',146-339,'A',341-438,'Y',440-513,'R',515-708
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A; Residues: 1-708 < TSA>
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A;Cross-references: EMBL:M92089; NID:g164613; PIDN:AAA31102.1;
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A; Residues: 1-11, 'W',
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A;Accession: S18517
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G',68-296,'S',298-339,'A',341-708
GB:M63502
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PID:g164614
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A, Molecule type: protein
A, Residues: 36-60 <BEL>
R, Shimazaki, K.; Tanaka, T.; Kon, H.; Oota, K.; Kawaguchi, A.; Maki, Y.; Sato, T.
J. Dairy Sci. 76, 946-955, 1993
A, Title: Separation and characterization of the C-terminal half molecule of bovine lactc
A, Reference number: A56659; MUID:93253156; pMID:8486845
A, Accession: A56659
A, Molecule type: protein
A, Residues: 20-25;302-308;359-366, 'X', 368-376, 'X', 378 <SHI>C, Superfamily: transferrin; transferrin repeat homology
C, Keywords: duplication; glycoprotein; iron binding; metalloprotein; milk
F, 1-19/Domain: signal sequence #status predicted <SIGo
F, 20-708/Product: lactotransferrin #status experimental <MAT>
F, 20-355/Domain: transferrin repeat homology <TRH1>
F, 35-65/Region: antimicrobial
F, 35-65/Pomain: transferrin repeat homology <TRH2>
F, 28-64/134-217,176-192,179-200,189-202,250-264,367-399,377-390,424-703,444-666,476-551,
F, 39-55/Disulfide bonds: #status predicted
F, 79,111,211,272/Binding site: iron (Asp. Tyr. Tyr. His) #status experimental
F, 352,300,387,495,564/Binding site: carbonate (Arg) #status experimental
F, 414,452,545,614/Binding site: carbonate (Arg) #status experimental
F, 414,452,545,614/Binding site: carbonate (Arg) #status experimental
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A;Mclecule type: protein
A;Molecule type: protein
A;Molecule type: protein
A;Mesidues: 20-27', X', 29-37', X', 39-54', X', 56-59 <REJ>
A;Residues: 20-27', X', 29-37', X', 39-54', X', Wakabayashi, H.; Kawase,
B;Bellamy, W.; Takase, M.; Yamauchi, K.; Wakabayashi, H.; Kawase,
Biochim. Biophys. Acta 1121, 130-136, 1992
A;Title: Identification of the bactesicidal domain of lactoferrin.
A;Reference number: S21756; MUID:92287941; PMID:1599934
A;Accession: S21756
   C;Species: Capra aegagrus hircus C;Date: 20-Feb-1995 #sequence_rev C;Accession: JC2323 R;Le Provost, F; Nocart, M.; Gue Biochem. Biophys. Res. Commun. 20 A;Title: Characterization of the
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R;Rejman, J.J.; Hegarty, H.M.; Hurley, W.L.
Comp. Biochem. Physiol. B 93, 929-934, 1989
A;Title: Purification and characterization of bovine lactoferrin
A;Reference number: PL0148; MUID:90031466; PMID:2805645
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A;Molecule type: protein
A;Residues: 20-47;59-66;132-139;256-277;278,305-332;343-351;361-363;586,587-589;598-619
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A; Residues: 28-38, 'P', 40-86, 'C', 88-708
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Matches 9
vost, F.; Nocart, M.; Guerin, G.; Martin, P.
Biophys. Res. Commun. 203, 1324-1332, 1994
Characterization of the goat lactoferrin cDNA:
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#sequence_revision 20-Feb-1995 #text_change
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J. Biol. Chem. 266, 21880-21885, 1991
A;Title: Characterization of estrogen-responsive
A;Reference number: A41205; MUID:92042099; PMID:1
A;Accession: A41205
A;Molecule type. Type:
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A;Accession: JC2323
A;Molecule type: mENA
A;Residues: 1-708 <LEP
C;Superfamily: transferrin; transferrin repeat homolc
C;Keywords: duplication; glycoprotein
F;359-696/Domain: transferrin repeat homology <TRH2>
F;252,300,387,495,564/Binding site: carbohydrate (Ass
                                                                                                                                                                                                                                                                         lactoferrin precursor - mouse
N;Alternate names: lactotransferrin
C;Species: Mus musculus (house mouse)
C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_c
C;Accession: A28438; A41205
R;Pentecost, B.T.; Tengy C.T.
J. Biol. Chem. 262, 10134-10139, 1987
A;Title: Lactotransferrin is the major estrogen inducible
A;Reference number: A92596; MUID:87280033; PMID:3611056
A;Accession: A28438
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A;Cross-references: EMBL:U96338; NID:g4808503;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A;Residues:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A; Molecule type: DNA
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66.7%;
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Pred. No.
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carbonic anhydrase-related protein - human

C;Species: Homo sapiens (man)

C;Date: 23-Jul-1999 #sequence_revision 23-Jul-1999 #text_change 21-Jul-2000

C;Accession: JE0375

R;Bellingham, J.; Gregory-Evans, K.; Y.Gregory-Evans, C.
Blochem. Biophys. Res. Commun. 253, 364-367, 1998

A;Title: Sequence and tissue expression of a novel human carbonic anhydrase.

A;Reference number: JE0375; MUID:99097242; PMID:9878543

A;Accession: JE0375
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A; Cross-references: GB:N74778
A; Cross-references: GB:N74778
C; Superfamily: transferrin; transferrin repeat homology
C; Keywords: duplication; glycoprotein
F;1-19/Domain: signal sequence #status predicted <SIG>F;20-707/Product: lactotransferrin #status predicted <MAT>F;358-655/Domain: transferrin repeat homology <TRH2>F;494/Binding site: carbohydrate (Asn) (covalent) #status |
                                                                                                                                                                                                                                                                                                                                    Rajandream, M.A.; Rogers, J.; Rutter, S.; Seeger, K.; Skelton, S.; Squares, S. Nature 393, 537-544, 1998
A;Authors: Sqares, R.; Sulston, J.E.; Taylor, K.; Whitehead, S.; Barrell, B.G. A;Title: Deciphering the biology of Mycobacterium tuberculosis from the complete A;Reference number: A70500; MUID:98295987; PMID:9634230
A;Accession: H70526
                                               C; Keywords: chromop: F;259-405/Domain: c; F;383/Binding site:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         R;Cole, S.T.; Brosch, R.; Parkhill, J.; Garnier, T.; Churcher, C.; Harris, D.; Connor, R.; Davies, R.; Devlin, K.; Feltwell, T.; Gentles, S.; Hamlin, N.; H. Rajandream, M.A.; Rogers, J.; Rutter, S.; Seeger, K.; Skelton, S.; Squares, S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 C;Species: Mycobacterium tuberculosis
C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 23-Dec-2002
C;Accession: H70526
                                                                                                                                                                                                          A;Residues: 1-449 <COL>
A;Cross-references: GB:Z96800; GB:AL123456; NID:g3261800; PIDN:CAB09576.1; PID:g2193948
A;Experimental source: strain H37Rv
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A; Residues: 1-328 < BE
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A; Residues: 1-449 <C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              probable cytochrome P450 Rv0327c - Mycobacterium tuberculosis (strain H37RV) N;Contains: oxidoreductase (EC 1.-.-.)
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                                                 Superfamily: Bacillus cytochrome P450 CYP106; cytochrome P450 homology; superfamily: Bacillus cytochrome P450 in metalloprotein; oxidoreductase; keywords: chromoprotein; heme; iron; metalloprotein; oxidoreductase; 269-405/Domain: cytochrome P450 homology <P45>
;383/Binding site: heme iron (Cys) (axial ligand) #status predicted
                                                                                                                                                             ;Gene: Rv0327c
                                                                                                                                                                                                                                                                                                        Status: preliminary; nucleic acid sequence not shown; translation not shown;
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8; Conserv
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Pred. No.
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Pred. No.
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A,Experimental source: planid NR1
R,Joong, X.; Womble, D.D.; Rownd, R.H.
J. Bacteariol. 169, 5353-5363, 1987
A,Title: Transcriptional pausing in a region important:
A,Reference number: A28378; MUID:88058738; PMID:2445727
A,Recession: C28378

for

plasmid NR1 replication contr

A;Status: preliminary; not compared with A;Molecule type: DNA A;Residues: 252-285 <JIA>

conceptual translation

of the IncFII

plasmid

NR1

R;Womble, D.D.; Sampathkumar, P.; Easton, A.M.; Luckow, V.A.; Rownd, J. Mol. Biol. 181, 395-410, 1985
A;Title: Transcription of the replication control region of the IncF. A;Reference number: 141106; MUID:85160860; PMID:2580099
A;Accession: I41109
A;Status: preliminary; translated from GB/EMBL/DDBJ

the IncFII R-plasmid NR1

Ħ.

R.H.

A; Molecule type: DNA A; Residues: 1-50 < DO2 >

A;Status: preliminary

A,Molecule type: DNA
A,Residues: 270-285 \*MAS>
A,Gross references: EMBL:X12587; NID:g41107; PIDN:CAA31100.1; PID:g41108
A,Gross references: EMBL:X12587; NID:g41107; PIDN:CAA31100.1; PID:g41108
A,Gross references: Damid R1
R,Jiang, T.; Min, Y.N.; Liu, W.; Womble, D.D.; Rownd, R.H.
J. Bacteriol. 175, 5350-5358, 1993
A,Title: Insertion and deletion mutations in the repA4 region of the IncF A,Reference number: A48662; MUID:93374828; PMID:8396115
A,Accession: A48662

R;Masai, H.; Arai, K.I. 6493-6514, 1988
Nucleic Acids Res. 16, 6493-6514, 1988
A;Tille: RepA protein- and orik-dependent initiation of A;Reference number: S05591; MUID:88289416; PMID:3041379

27

plasmid replication: identifi

A;Status: translation not shown

A; Accession: S05591

A;Cross-references: EMBL:X12776; NID:g42707; A;Experimental source: plamid NR1

PIDN: CAA31263.1;

PID:g581213

A;Residues: 1-285 <DON> A; Molecule type: DNA

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A;Cross-references: GB:J01762; GB:J01761; GB:J01767; GB:J01768; A;Experimental source: plasmid R100 R;Rosen, J.; Ryder, T.; Ohtsubo, H.; Ohtsubo, E. Nature 290, 794-797, 1981
A;Title: Role of RNA transcripts in replication incompatibility A;Reference number: A93253; MUID:81173118; PMID:6163994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   C;Date: 18-Dec-1981 #Sequence revision 17-Dec-1982 #text_change 16-Jul-1999 C;Accession: A03602; B03602; S01773; S05591; A48662; C28378; I41109 R;Rosen, J.; Ryder, T.; Inokuchi, H.; Ohtsubo, H.; Ohtsubo, E. Mol. Genet. 179, 527-537, 1980 Mol. Genet. 179, 527-537, 1980 and incompatibility of an FA;Title: Genes and sites involved in replication and incompatibility of an FA;Title: Genes and sites involved in replication and incompatibility of an FA;Title: Genes and sites involved in replication and incompatibility of an FA;Title: Genes and sites involved in replication and incompatibility of an FA;Title: Genes and sites involved in replication and incompatibility of an FA;Title: Genes and sites involved in replication and incompatibility of an FA;Title: Genes and sites involved in replication and incompatibility of an FA;Title: Genes and sites involved in replication and incompatibility of an FA;Title: Genes and sites involved in replication and incompatibility of an FA;Title: Genes and sites involved in replication and incompatibility of an FA;Title: Genes and sites involved in replication and incompatibility of an FA;Title: Genes and sites involved in replication and incompatibility of an FA;Title: Genes and sites involved in replication and incompatibility of an FA;Title: Genes and sites involved in replication and incompatibility of an FA;Title: Genes and sites involved in replication and incompatibility of an FA;Title: Genes and sites involved in replication and incompatibility of an FA;Title: Genes and sites involved in replication and incompatibility of an FA;Title: Genes and sites involved in replication and incompatibility of an FA;Title: Genes and sites involved in replication and incompatibility of an FA;Title: Genes and sites involved in replication and incompatibility of an FA;Title: Genes and sites involved in replication and incompatibility of an FA;Title: Genes and sites involved in replication and incompatibility of an FA;Title: Genes and sites involved in replication and sites involved in replica
A,Title: In-vivo studies on the cis-acting replication initiator protein of A,Reference number: S01773, MUID:89011975, PMID:3050127
A,Accession: S01773
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A; Residues: 1-77 < ROS>
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C;Species: E
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A; Molecule type: DNA
A; Residues: 1-285 < RES>
A; Cross-references: EMBI
C; Genetics:
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A;Cross-references: GB:M26840; NID:g151770; PIDN:AAA26067.1; PID:g151773
A;Cross-references: GB:M26840; NID:g151770; Luckow, V.A.; Rownd, R.H.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      replication-associated protein A1 - Escherichia coli
C;Species: Escherichia coli
C;Species: 07-Jun-1996 #sequence_revision 07-Jun-1996 #text_change 26-Aug-1999
C;Date: 07-Jun-1996 #sequence_revision 07-Jun-1996 #text_change 26-Aug-1999
C;Accession: I64780; I41110
A;Cross-references: DDBJ:AB029888 C;Comment: This enzyme, which is a vacuole-type fructosyltransferase and a fructan-biosy fers a fructosyl moiety from one sucrose to another, resulting in the formation of trisa
                                                                                                          Biosci. Biotechnol. Biochem. 66, 2297-2305, 2002
A;Title: Molecular characterization of sucrose:sucrose 1-fructosyltransferase
A;Reference number: JC7905; MUID:22394650; PMID:12506964
A;Accession: JC7906
                                                                                                                                                                                                                                                                          Sucrose 1F-fructosyltransferase (EC 2.4.1.99) - wheat N,Alternate names: 1-SST; fructosyltransferase 2; Wft2 protein
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A;Title: Transcription of the replication control region A;Reference number: I41106; MUID:85160860; PMID:2580099 A;Accession: I41110
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A; Residues: 1-285 < R:
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A;Title: DNA replication of the resistance plasmid R100 and its control A;Title: DNA replication of the resistance plasmid R100 and its control A;Reference number: I51821; MUID:86319522; PMID:3019092
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                                                                 A; Molecule type: mRNA
A; Residues: 1-662 < KAW>
                                                                                                                                                                                              R;Kawakami, A.; Yoshida,
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                                                                                                                                                                                                                                  Species: Triticum aestivum (common wheat)
Date: 03-Feb-2003 #sequence_revision 03-Feb-2003 #text_change
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7; Conserva
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87.5%;
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Pred. No. 15;
1; Mismatches
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Pred. No.
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C;Accession: AB3466
R;DelVecchio, V.G.; Kapatral, V.; Redkar, R.J.; Patra, G.; Muj
R;DelVecchio, V.G.; Kapatral, V.; Redkar, R.J.; Patra, G.; Muj
R; Mazur, M.; Goltsman, E.; Selkov, E.; Elzer, P.H.; Hagius, S
Proc. Natl. Acad. Sci. U.S.A. 99, 443-448, 2002
A;Title: The genome sequence of the facultative intracellular
A;Reference number: AD3252; PMID:11756688
A;Accession: AB3466
                                                                                                                                                    A; Map position: I
C; Superfamily: inner membrane protein ugpA
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A;Residues: 1-307 <KUR>
A;Cross-references: GB:AE008917; PIDN:AAL52896.1;
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C;Species: Brucella melitensis
C;Date: 01-Feb-2002 #sequence_revision 01-Feb-2002 #text_change 15-Feb-2002
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A;Molecule type: DNA
A;Residues: 1-176 <KAW>
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A;Title: Complete genome sequence of an aerobic hyper-thermophilic Crenarchaeon, Aeropyr A;Reference number: A72450; MUID:99310339; PMID:10382966
A;Accession: F72563
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 13
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A;Experimental source: strain K1
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H.; Takamiya, M.; Masuda, S.; Funahashi,
                                                                                                                                                                                                                                                                                                               preliminary
251
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i, T.; Tanaka, T.; Kudoh, Y.; Yamazaki,
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lagius, S.; O'Callaghan,
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RESULT 15
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Search completed: September Job time: 8.96 secs
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            N;Alternate names: invertase
C;Species: Zea mays (maize)
C;Date: 05-Mar-1999 #sequence_revision 05-Mar-1999 #text_change 22-Jun-1999
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A;Description: Molecular characterization and differential expression of a invertase A;Reference number: Z14645
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   beta-fructofuranosidase (EC 3.2.1.26) - maize (fragment)
                                                                                                                                                                                                                                                                                      A; Gene: CC2753
                                                                                                                                                                                                                                                                                                          A;Cross-references: GB:AE005673; NID:913424347; PIDN:AAK24717.1; GSPDB:GN00148
                                                                                                                                                                                                                                                                                                                                                        A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-986 <STO>
                                                                                                                                                                                                                                                                                                                                                                                                                          R;Nierman, W.C.; Feldblyum, T.V.; Paulsen, I.T.; Nelson, K.E.; Eisen, J.; Heidelberg, J. B.; Laub, M.T.; DeBoy, R.T.; Dodson, R.J.; Durkin, A.S.; Gwinn, M.L.; Haft, D.H.; Kolon, J.; Ernolaeva, M.; White, O.; Salzberg, S.L.; Shapiro, L.; Venter, J.C.; Fraser, C.M. Proc. Natl. Acad. Sci. U.S.A. 98, 4136-4141, 2001
A;Title: Complete Genome Sequence of Caulobacter crescentus.
A;Reference number: A87249; MUID:21173698; PMID:11259647
A;Accession: A87590
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 hypothetical protein CC2753 [imported] - Caulobacter crescentus . C.Species: Caulobacter crescentus . C.Species: Caulobacter crescentus . C.Pate: 20-Apr-2001 #sequence_revision 20-Apr-2001 #text_change 20-Apr-2001 C.Paccession: A87590
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Nolecule type: mENA
A;Residues: 1-509 <XUJ>
A;Coss-references: EMBL;U31451; NID:g951165; PIDN:AAA74584.1; PID:g951166
A;Experimental source: strain merit; root tip
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   SwissProt_42:*
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THEOFPO; IRRO1156; Transferrin, 2.

Pfam; PF00445; transferrin; 2.

PRINTS; PR0042; TRANSFERRIN.

SMART; SM00094; TR FER; 2.

PROSITE; PS00205; TRANSFERRIN 1; 2.

PROSITE; PS00205; TRANSFERRIN 2; 2.

PROSITE; PS00206; TRANSFERRIN 3; 2.

Transport; Iron transport; Glycoprotein; Metal-binding; Repeat;
   Transport; Iron transposignal; 3D-structure.
SIGNAL 1 19
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MEDIINE=2388257; PubMed=12477932;
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Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,
Klausner R.D., Collins F.S., Wagner L., Shenmen C.F., Bhat N.K.,
Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,
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Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,
Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,
Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,
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MEDLINE=90384839; PubMed=2402455;
MEDLINE=90384839; PubMed=2402455;
Rey M.W., Woloshuk S.L., de Boer H.A.,
"Complete nucleotide sequence of human
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Wei X., Han J., Rado T.A.;
"Human neutrophil lactoferrin
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Liang Q., Jimenez-Flores R., Richardson T.;
"Molecular cloning and sequence analysis of h
Submitted (DEC-1991) to the EMBL/GenBank/DDBJ
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15-JUL-1999 (Rel. 38, Last sequence update)
10-OCT-2003 (Rel. 42, Last annotation update)
Lactotransferrin precursor (Lactoferrin) [Contains:
Lactoferroxin B; Lactoferroxin C].
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             Haridas M., Anderson "Structure of human dresolution.";
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alignment of
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sugar J., Kumaramanickavel G., Munier F., Schorderet D.F.,

El Matri L., Iwata F., Kaiser-Kupfer M., Nagata M., Nakayasu K.,

Hejtmancik J.F., Teng C.T.;

"Familial subepithelial corneal amyloidosis (gelatincus drop-like
corneal dystrophy): exclusion of linkage to lactoferrin gene.";

Mol. Vision 4:31-32(1998).

-!- FUNCTION: TRANSFERRINS ARE IRON BINDING TRANSPORT PROTEINS WHICH
CAN BIND TWO ATOMS OF FERRIC IRON IN ASSOCIATION WITH THE BINDING
CAN BIND TWO ATOMS OF FERRIC IRON IN ASSOCIATION WITH THE BINDING
OF AN ANION, USUALLY BICARBONATE.

-!- FUNCTION: LACTOFERROXIN A, B AND C HAVE OPTOID ANTAGONIST
ACTIVITY. LACTOFERROXIN A SHOWS PREFERENCE FOR MU-RECEPTORS, WHILE
LACTOFERROXIN B AND C HAVE SOMEWHAT HIGHER DEGREES OF PREFERENCE
FOR KAPPA-RECEPTORS THAN FOR MU-RECEPTORS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MEDLINE=99031914; PubMed=9873069;
Klintworth G.K., Sommer J.R., Obrian G., Han L., Ahmed M.N.,
Qumsiyeh M.B., Lin P.-Y., Basti S., Reddy M.K., Kanai A., Hotta Y.,
Sugar J., Kumaramanickavel G., Munier F., Schorderet D.F.,
Sugar J., Kumaramanickavel G., Munier F., Schorderet D.F.,
El Matri L., Iwata F., Kaiser-Kupfer M., Nagata M., Nakayasu K.,
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[20]
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MEDLINE=99190892; PubMed=10089347;

Sun X.L., Baker H.M., Shewry S.C., Jameson G.B., Baker E.N.;

Sun X.L., Baker H.M., Shewry B.C., Jameson G.B., Baker E.N.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         binding properties and crystal
253-->methionine mutant.";
Biochemistry 36:341-346(1997).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      [16]
X-RAY
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Jameson G.B., Anderson B.F., Norris G.E., Thomas D.H., Baker E.N., "Structure of human apolactoferrin at 2.0-A resolution. Refinement and analysis of ligand-induced conformational change.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MEDLINE=91166929;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   VARIANTS THR-30 AND ARG-48.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Acta Crystallogr. D 54:1319-1335(1998).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                <-RAY CRYSTALLOGRAPHY</p>
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                                                                                                               y Match
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                                                                                             Conservative
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AAA58656.1; -.
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PDB; 1B1X; 02-DEC-98.

PDB; 1B7U; 02-PEB-99.

PDB; 1B7Z; 02-PEB-99.

PDB; 116B; 11-PEB-01.

PDB; 116B; 13-PEB-02.

PDB; 116B; 11-PEB-02.
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PRINTS, SM00094; TR FER; 2.

PROSITE; PS00205; TRANSFERRIN_1; 2.

PROSITE; PS00205; TRANSFERRIN_2; 2.

PROSITE; PS00207; TRANSFERRIN_3; 1.

PROSITE; PS00207; TRANSFERRIN_3; 1.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         resolution.";

J. Mol. Biol. 289:303-317(1999).

-I- FUNCTION: TRANSPERRINS ARE IRON BINDING TRANSPORT PROTEINS WHICH
-I- FUNCTION: TRANSPERRING IRON IN ASSOCIATION WITH THE BINDING
                                                                                                                                                                                                                                                                                                                                                                                                               Pfam; PF00405; transferrin; 2
PRINTS; PR00422; TRANSFERRIN.
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-!- SUBCELLULAR LOCATION:
-!- DOMAIN: Composed of tv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Paramasivam M., Srinivasan A., Yadav M.P., Singh T.P.; "cDNA sequence of mare lactoferrin."; Submitted (SEP-1998) to the EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sharma A.K., Paramasivam M., Srinivasan A., Yadav M.P., Singh T.P., "Three-dimensional structure of mare diferric lactoferrin at 2.6-A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEDLINE=99296631; PubMed=10366507;
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Mammalia; Eutheria; Perissodactyla; Equidae; Equus.
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PROSITE; PS00205; TRANSFERRIN_1;
PROSITE; PS00205; TRANSFERRIN_2;
PROSITE; PS00207; TRANSFERRIN_3;
                                                                                                                                                                                                                                                                                                              This SWISS-PROT entry is copyright. It is produced through a clothern the Swiss Institute of Bioinformatics and the EMBL the European Bioinformatics Institute. There are no restrict use by non-profit institutions as long as its content is modified and this statement is not removed. Usage by and fo entities requires a license agreement (See http://www.isb-sib.or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Hutchens T.W., Magnuson J.S., Yip T.-T.;
"Rapid purification of porcine colostral whey lactoferrin by affinity chromatography on single-stranded DNA-aggrose. Characterization, amino acid composition and N-terminal amino acid sequence.";
Biochim. Biophys. Acta 999:323-329(1989).
-i- FUNCTION: TRANSFERRING ARE IRON BINDING TRANSPORT PROTEINS WHICH CAN BIND TWO ATOMS OF FERRIC IRON IN ASSOCIATION WITH THE BINDING
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EMBL; M81327; AAA31059.1;
PIR; A45543; A45543.
HSSP; O77698; 1CE2.
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Alexander L.J., Levine W.B., Teng C.T.,
Alexander and sequencing of the porcine
"Cloning and sequencing of the porcine
Anim. Genet. 23:251-256(1992).
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Mammalia; Eutheria;
NCBI_TaxID=9823;
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MEDLINE=92379101; PubMed=1511016;
Lyndon J.P., O'Malley B.R., Sauce
Conneely O.M.;
                                                                                                                                                                                                                        InterPro; IPR001156; Transferrin, Pf00405; transferrin; 2. PRINTS; PR00422; TRANSFERRIN.
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Acta 1132:97-99(1992).
  Chordata; Craniata; Vertebrata; Euteleostomi; Cetartiodactyla; Suina; Suidae; Sus.
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16-OCT-2001
                                                    SEQUENCE FROM N.A.
STRAINS-Somali; TISSUE=Lactating mammary gland;
Kappeler S.R., Ackermann M., Farah Z., Puhan Z.;
"Sequence analysis of camel (Camelus dromedarius)
int. Dairy J. 9:481-486(1999).
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PROSITE; PS00206; TRANSFERRIN 2; 2.
PROSITE; PS00207; TRANSFERRIN 3; 2.
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Transport; Iron transport; Glycoprotein; Metal-binding; Repeat; Signal; 3D-structure.
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-!- FUNCTION: TRANSFERRINS ARE IRON BINDING TRANSFORT PROTEINS WHICH
-CAN BIND TWO ATOMS OF FERRIC IRON IN ASSOCIATION WITH THE BINDING
OF AN ANION, USUALLY BICARBONATE (BY SIMILARITY).
-!- SUBCELLULAR LOCATION: Secreted.
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TISSUE=Lung;
Tsang T.C., Burns D.K., Wang F
"Cloning of a 80-kD advanced g
protein from bovine lung.";
FASEB J. 6:233-233(1991).
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SEQUENCE OF 20-59.

MEDLINE=90031466; PubMed=2805645;

Rejman J.J., Hegarty H.M., Hurley W.L.;

Rejman J.J., Hegarty H.M., Hurley W.L.;

"Purification and characterization of bovine secretions of the involuting mammary gland: i multiple molecular weight forms.";
                                                                                                                                                                                                                                                                                                                                                           MEDLINE=92028986; PubMed=1718281;
Goodman R.E., Schanbacher F.L.;
"Bovine lactoferrin mRNA: sequence, analysis, and
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TISSUE=Blood, and Mammary gland;
TISSUE=94266164; PubMed=8206385;
MEDLINE=94266164; PubMed=8206385;
Seyfert H.-M., Tuckoricz A., Interthal H., Koc
"Structure of the bovine lactoferrin-encoding
Gene 143:265-269(1994).
                                                                                                                                                                                                                                                                                                                                  mammary gland.";
Biochem. Biophys.
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Pierce A., Colavizza D., Benaissa M.,
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Hang P.M., Zhou N., Shan X., Arrowsmith C.H., Vogel H.J.;

RT "Three-dimensional solution structure of lactoferricin B, an antimicrobial peptide derived from bovine lactoferrin.";

RI Biochemistry 37:4288-4298(1998).

CC CAN BIND TWO AROMS OF FERRIC IRON BINDING TRANSFORT PROTEINS WHICH COP AN ANION, USUALLY BICARBONATE.

C OF AN ANION, USUALLY BICARBONATE.

C SUBCUNIT: Monomer.

SUBCELLULAR LOCATION: Secreted.

-!- SUBCELLULAR LOCATION: Secreted.
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EMBL; M63502, AAA30609.1; -.

EMBL; L108604; AAA30609.1; -.

EMBL; L19983; AAA21722.1; JOINED.

EMBL; L19983; AAA21722.1; JOINED.

EMBL; L19984; AAA21722.1; JOINED.

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DOMAIN: Composed of two homologous domains.
SIMILARITY: Belongs to the transferrin family.
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"Characterization of the goat lactoferrin cDNA. Assignment of the
relevant locus to bovine Ul2 synteny group.";

Biochem. Biophys. Res. Commun. 203:1324-1332(1994).

-! FUNCTION: TRANSFERRINS ARE IRON BINDING TRANSPORT PROTEINS WHICH
CAN BIND TWO ATOMS OF FERRIC IRON IN ASSOCIATION WITH THE BINDING
OF AN ANION, USUALLY BICARBONATE.

-! SUBUNIT: Monomer (By similarity).

-!- SUBUNIT: Monomer (By similarity).

-!- SUBCELLULAR LOCATION: Secreted.

-!- SUBCELLULAR LOCATION: Secreted.
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NCBI_TaxID=9925;
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RESULT 8

TRFL MOUSE

TRFL MOUSE

TRFL MOUSE

AC PO8071; P70690; Q61799; Q922P2;

DT 01-AUG-1998 (Rel. 08, Created)

DT 10-CT-2003 (Rel. 41, Last sequence update)

DT 10-OCT-2003 (Rel. 42, Last annotation update)

Eactotransferrin precursor (Lactoferrin).

GN LTF.

OS Mus musculus (Mouse).

CS Mus musculus (Mouse).

CM Eukaryota; Metazoa; Chordata; Craniata; Vertebra

OC Mammalia, Eutheria; Rodentia; Sciurognathi; Muri

OX NCBI_TaxID=10090;

RN [1]

RP SEQUENCE FROM N.A.

RC TISSUS=Uterus;

RA Pentrecost B.T., Teng C.T.;

RA Pentrecost B.T., Teng C.T.;

RA Pentrecost B.T., Teng C.T.;
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Sciurognathi; Muridae;
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Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Heich F.,
An Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
An Stapleton M., Soares M.B., Bonaldo M.F., Cassavant T.L., Scheetz T.E.,
An Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,
An Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,
An Bosak S.A., McBwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,
An Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
An Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
An Willalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
An Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
An Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
An Whiting M., Madan J.W., Green E.D., Dickson M.C.,
An Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,
An Blakesley R.W., Touchman J.W., Schmutz J., Myers R.M.,
An Butterfield Y.S.N., Krzywinski M.I., Skalska U., Smailus D.E.,
Butterfield Y.S.N., Krzywinski M.I., Skalska U., Smailus D.E.,
Generation and initial analysis of more than 15,000 full-length
human and mouse cDNA sequences.",
Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903 (2002).
                                                                                                                                                                                                                                                                             EMBL; J03298; AAA40525.1; -.
EMBL; D88510; BAA1633.1; -.
EMBL; BC006904; AAH06904.1; -.
EMBL; M74778; AAA39427.1; -.
HSSP; P02788; 1CB6.
MGD; MGI:96837; Ltf.
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J. Biol. Chem. 266:21880-21885[1991]
-i- FUNCTION: TRANSFERRINS ARE IRON BINDING TRANSPORT PROTEINS WHICH CAN BIND TWO ATOMS OF EERRIC IRON IN ASSOCIATION WITH THE BINDING OF AN ANION, USUALLY BICARBONATE.
-i- SUBCELLULAR LOCATION: Secreted.
-i- SUBCELLULAR LOCATION: Secreted.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE OF 1-14 FROM N.A. MEDLINE=92042099; PubMed=1939212; Liu Y., Teng C.T.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MEDLINE=22388257; PubMed=124//752; Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G., Strausberg R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D., Klausner R.D., Collins F.S., Wagner L., Schaefer C.F., Bhat N.K., Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Hsieh F.,
                                                                                                                     PROSITE; PS00205; TRANSFERRIN 1; 1.
PROSITE; PS00206; TRANSFERRIN 2; 2.
PROSITE; PS00207; TRANSFERRIN 3; 2.
PROSITE; PS00207; TRANSFERRIN 3; 2.
Transport; Iron transport; Glycoprotein; Metal-binding; Repeat;
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Pfam; PF00405; transferrin; 2.

    -!- SIMILARITY: Belongs to the transferrin family.

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. Chem. 262:10134-10139(1987).
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LACTOTRANSFERRIN
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30-MAY-2000 (Rel. 39, Created)
16-OCT-2001 (Rel. 40, Last sequence update)
10-OCT-2003 (Rel. 42, Last annotation update
Carbonic anhydrase-related protein 2 precur
(CA-XI) (Carbonic anhydrase-related protein
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MEDLINE=99097242; PubMed=9878543;
Bellingham J., Gregory-Evans K., Gregory-Evans C.Y.;
"Sequence and tissue expression of a novel human carbonic
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Homo sapiens (Human).
Chordata;
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                                                            Eukaryota; Metazoa;
Mammalia; Eutheria;
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M -> L (IN REF. 2).
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RA Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,
RA Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,
RA Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
RA Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,
RA Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
RA Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
RA Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
RA Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
RA Stapleton M., Soares M.B., Bonaldo M.F., Carninci P., Prange C.,
RA Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,
RA Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,
RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
Ra Fahey J., Helton S., Ketteman M., Madan A., Rodrigues S., Sanchez A.,
RA Mhiting M., Madan A., Young A.C., Shewchenko Y., Bouffard G.G.,
RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,
Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,
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Chnerch A., Schein J.E., Jones S.J.M., Marra M.A.;
"Generation and initial analysis of more than 15,000 full-length
human and mouse cDNA sequences.",
La Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903 (2002).
                                                                                                                                                                                                                                     EMBL; BC002662; AAH02662.1
EMBL; AF050106; AAD08802.1
PIR; JE0375; JE0375.
HSSP; P00918; 1BV3.
Genew; HGNC:1370; CA11.
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"Evolutionarily conserved, 'acatalytic' carbonic anhydization of the protein XI contains a sequence motif present in the ne sauvagine: the human CA-RP XI gene (CAII) is embedded secretor gene cluster and the DBP gene at 19q13.3."; Genomics 54:484-493 (1998).
GO; GO:0004089; F:carbonate dehydratase
InterPro; IPR001148; Euk COanhd.
Pfam; PF00194; carb anhydrase; 1.
ProDom; PD000865; Euk COanhd; 1.
PROSITE; PS00162; EUK_CO2_ANHYDRASE; FAI
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EMBL; AB018195;
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"cDNA sequence, mRNA expression, and chromosomal
carbonic anhydrase-related protein, CA-RP XI.";
Biochim. Biophys. Acta 1431:518-524(1999).
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Biochem. Biophys.
[2]
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SUBCELULIAR LOCATION: Secreted (Potential).
TISSUE SPECIFICITY: EXPRESSED ABUNDANTLY IN THE BRAIN WITH
MODERATE EXPRESSION ALSO PRESENT IN SPINAL CORD AND THYROLD.
SIMILARITY: Belongs to the eukaryotic-type carbonic anhydrase
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1) is embedded between the
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Matches 8
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Nature 393:537-544(1998)."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Bacteria; Actinobacteria; Actinobacteridae; Actinomycetales; Corynebacterineae; Mycobacteriaceae; Mycobacterium. NCBI_TaxID=1773;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               30-MAY-2000 (Rel. 39, Created)
30-MAY-2000 (Rel. 39, Last sequence update)
10-OCT-2003 (Rel. 42, Last annotation update)
Putative cytochrome P450 135A1 (EC 1.14.-.).
CYP135A1 OR RV0327C OR MT0342 OR MTCY63.32C.
                                                                               EMBL; Z96800; CA
EMBL; AE006940;
PIR; H70526; H70
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STRAIN=CDC 1551 / Oshkosh;
MEDLINE=22206494; PubMed=12218036;
Fleischmann R.D., Alland D., Eisen
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STRAIN=H37Rv;
                                                                                                                                                                                                                                                                                                                                                                                                                                                           laboratory strains."
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SIMILARITY: Belongs to the cytochrome
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J. Mol. Biol. [6]
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METAL 383
SEQUENCE 449 AA;
                     PLASMID=IncFII NR1;

MEDLINE=85160860; PubMed=2580099;

Womble D.D., Sampathkumar P., Easton A.M.,

"Transcription of the replication control

R-plasmid NR1 in vitro and in vivo.";

J. Mol. Biol. 181:395-410(1985).
                                                                                                                                                                                                                                SEQUENCE FROM N.A.

PLASMID=IncFII NR1;

MEDLINE=89011975; PubMed=3050127;

Dong X., Womble D.D., Rownd R.H.;

"In-vivo studies on the cis-acting
IncFII plasmid NR1.";
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[3]
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    riasmid incril R100, Plasmid IncFII R1, and Plasmid IncFII NR1.
Bacteria; Proteobacteria; Gammaproteobacteria; Enterobacteriale
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PRINTS; PR00385; P450.
PROSITE; PS00086; CYTOCHROME P450; 1.
Hypothetical protein; Oxidoreductase; Monooxygenase; Heme;
                                                                                                                                                                                                                                                                                                                                                                                        "RepA protein- and oriR-dependent initiation of R1 plasmid replication: identification of a rho-dependent transcriptic terminator required for cis-action of repA protein."; Nucleic Acids Res. 16:6493-6514(1988).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PLASMID=IncFII R100, and IncFII R1;
MEDLINE=81173118; PubMed=6163994;
Rosen J., Ryder T., Ohtsubo H., Oht
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Replication
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MEDLINE=88289416; PubMed=3041379;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Rosen J., Ryder T., Ohtsubo H., Ohtsubo "Role of RNA transcripts in replication number control in antibiotic resistance Nature 290:794-797(1981).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Enterobacteriaceae;
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Plasmid IncFII R100,
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                                                                                              Easton A.M.,
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incompatibility and copy
plasmid derivatives.";
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Matches
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EMBL; J01770; -; NOT ANNOTATED_CDS.
EMBL; X12597; CAA3110.1; -..
EMBL; X22776; CAA31263.1; -..
EMBL; X02302; CAA26168.1; -..
EMBL; X02302; CAA26169.1; ALT_INIT.
EMBL; X02302; CAA26169.1; ALT_INIT.
EMBL; X02302; CAA26169.1; -..
EMBL; X02302; CAA26169.1; ALT_INIT.
EMBL; X02302; CAA26169.1; -..
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EMBL; X02302; CAA26169.1; -..
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Q9YB03;
30-MAY-2000
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                                                                                                                                                              Kawarabayasi Y., Hino Y., Horikawa H., Yamazaki S., Haikawa Jin-no K., Takahashi M., Sekine M., Baba S.-I., Ankai A., K Hosoyama A., Fukui S., Nagai Y., Nishijima K., Nakazawa H., Takamiya M., Masuda S., Funahashi T., Tanaka T., Kudoh Y., Yamazaki J., Kushida N., Oguchi A., Aoki K.-I., Kubota K., Nakamura Y., Nomura N., Sako Y., Kikuchi H.; Nakamura Y., Nomura N., Sako Y., Kikuchi H.;
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Ohtsubo H., Ryder T.B., Maeda Y., Armstrong K., Oh'
"DNA replication of the resistance plasmid R100 and
Adv. Biophys. 21:115-133(1986).
-!- FUNCTION: This protein is essential for plasmid
involved in copy control functions.
-!- SIMILARITY: BELONGS TO THE INCFII REPA FAMILY.
                                                                                             - i -
                                                                                                                  crenarchaeon, Aeropyrum pernix DNA Res. 6:83-101(1999).
                                                                                                                                                                                                                                                                                                                                                                                                                                                               Aeropyrum pernix.
Archaea; Crenarchaeota;
Desulfurococcaceae; Aero
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Pfam; PF02387; IncFII repA; I.
Plasmid; DNA replication; Plasmid copy control
Plasmid; DNA replication; Plasmid copy control
CONFLICT 55 8 --> H (IN REF. 6
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                          between
                                                 This
                                                                                                                                                                                                                                                                                                                                             MEDLINE=99310339;
                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE
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                  SWISS-PROT entry is copyright. It is produced through a collaboration een the Swiss Institute of Bioinformatics and the EMBL outstation -
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al protein APE1792.
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Bioinformatics Institute.
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Pred. No. 6.4;
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RESULT 13
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AC QBG674
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entities requires a license agreement '-
or send an email '-'
                                                                                                                                                                                                                                                            the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entitles requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                STRAINE=CC 2705;
MEDLINE=2299477; PubMed=12381787;
Schell M.A., Karmirantzou M., Snel B.
Pessi G., Zwahlen M.-C., Desiere F.,
Pridmore R.D., Arigoni F.;
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10-OCT-2003 (Rel. 42, Last sequence update)
10-OCT-2003 (Rel. 42, Last annotation updat
Methyltransferase gidB (EC 2.1.-.-) (Glucos
                                                                                                                                                                                EMBL; AE014686; AAN24468.1; -- HAMAD; MF_00074; -; 1. InterPro; IPR003682; GidB. Pfam; PF02527; GidB; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                    to the human gastrointestinal tract.";
Proc. Natl. Acad. Sci. U.S.A. 99:14422-14427(2002).
-!- FUNCTION: Probable S-adenosyl-L-methionine depo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          protein B).
GIDB OR BL0646
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Pfam; PF02834; 25 ligase; 2.
Hypothetical protein; Complete p
SEQUENCE 176 AA; 19666 MW; C
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                                                                                                                                                ProDom; PD004441; GidB; 1.
TIGRFAMs; TIGR00138; gidB; 1.
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                                                                                                                                                                                                                                                                                                                                               SWISS-PROT entry is copyright. It is produced through a collaboration een the Swiss Institute of Bioinformatics and the EMBL outstation
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Pred. No. 6.3;
0; Mismatches
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MEDLINE=99127120;
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MEDINE-20057165; PubMed=10591208;

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Clamp M., Smink L.J., Ainscough R., Almeida J.P., Babbage A.K.,

Bard C.P., Bailey J., Barlow K.F., Bates K.N., Beasley O.P.,

Blid C.P., Blakey S.E., Bridgeman A.M., Buck D., Burgess J.,

Burrill W.D., Burton J., Carder C., Carter N.P., Chen Y., Clark G.,

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Conroy D., Corby N.R., Coville G.J., Cox A.V., Davis J., Dawson E.,

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Evans K.L., Fey J.M., Pleming K., French L., Garner A.A.,

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Hall R.E., Hall-Tamlyn G., Heathcott R.M., Ho S., Holmes S.,

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Ann. N.Y. Acad. Sci. 863:56-63(1998).
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MEDLINE=98389766; PubMed=9722565;
Smith K.E., Walker M.W., Artymyshyn R., Bard J., Borowsky
Tamm J.A., Yao W.-J., Vaysse P.J.-J., Branchek T.A., Geral
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Tsutsumi S., Aburatani H.,
"Genome-wide discovery and
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15-JUL-1999 (Rel. 38,
10-OCT-2003 (Rel. 42,
Galanin receptor type
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Submitted (JUL-2001)
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Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
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atani H., Asai K.,
overy and analysis
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, Akiyama Y.;
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Natury ID, Mathresh C.P., Lawetcha M.A., Lloyd C., Lloyd D.M.,
Nak Mattyn ID, Mathresh S., McMarray A.A., Milne S.A., Mortimore B.J.C.T.,
Rad Odell C.M., Pawlit R., Pearce A.V., Pearsen D., Phillinge B.J.C.T.,
Rad Odell C.M., Pawlit R., Pearce A.V., Pearsen D., Phillinge B.J.C.T.,
Rad Scott C.S., Sahra H.K., Skote C.D., Phillinge B.J.C.T.,
Rad Scott C.S., Sahra H.K., Skote C.D., Phillinge B.J.C.T.,
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Rad Milliams L., Shibaya K., Yoshizaki Y., Ancki N., Missyama S.,
Rad Scott C.S., Kawasaki K., Saaki T., Ancka S., Midol J.,
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Rad Shara M., Fang G., Chase S., Milliamson H., Whiten Y.E., Milling L.,
Rad Shiftani A., Shibaya K., Yoshizaki Y., Ancki N., Missyama S.,
Rad Shara M., Fang G., Chasee S., Mirry J., Miller N., Minx P.,
Rad Scott C.S., Rad G., Chasee S., Mirry J., Miller N., Minx P.,
Rad Scott C.S., Rad G., Chasee S., Mirry J., Miller N., Minx P.,
Rad Scott C.S., Rad G., Chasee S., Mirry J., Miller N., Minx P.,
Rad Scott C.S., Rad G., Chasee S., Mirry J., Miller N., Minx P.,
Rad Scott C.S., Rad G., Chasee S., Mirry J., Miller N., Minx P.,
Rad Scott C.S., Rad G., Chasee S., Mirry J., Miller N., Minx P.,
Rad Scott C.S., Rad G., Chasee S., Mirry J., Miller N., Minx P.,
Rad Scott C.S., Rad G., Chasee S., Mirry J., Miller N., Minx P.,
Rad Scott C.S., Rad G., Chasee S., Mirry J., Miller N., Minx P.,
Rad Scott C.S., Rad G., Chasee S., Mirry J., Rad G., Chasee S., Rad G., Rad D., Graves T., Hawkin G.,
Rad Scott C.S., Rad G., Chase S., Rad G., Rad D., Graves T., Hawkin G.,
Rad Scott C.S., Rad G., Chase S., Rad D., Graves T., Hawkin G.,
Rad Scott C.S., Rad G., Chase S., Rad D., Salakh T., Karthashi H., Saltta S.,
Rad Scott C.S., Rad G., Chase S., Rad G., Rad G., Chasee S., Rad G., Rad
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908236; Q96CL9;
91-AUG-1988 (Rel. 08, Created)
10-AUG-1988 (Rel. 08, Last sequence update)
10-OCT-2003 (Rel. 42, Last annotation update)
Beta-glucuronidase precursor (EC 3.2.1.31) (Beta-G1).
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DOMAIN
                                                                                                                                                                                                                  "Cloning, sequencing, and glucuronidase.";
                                                                                                                                                                                    SEQUENCE FROM
TISSUE=Colon;
                                                                                                                                                                                                                         MEDLINE=87118233; PubMed=3468507;
Oshima A., Kyle J.W., Miller R.D., Hoffmann J.W.,
Grubb J.H., Sly W.S., Tropak M., Guise K.S., Grave
"Cloning, sequencing, and expression of cDNA for l
                                                                                                                                                                                                                                                                            NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                      Eukaryota; Metazoa;
Mammalia; Eutheria;
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SEQUENCE OF 1-70 F
MEDLINE=92009900;
                                                                                                                                                                             MEDLINE=22388257; PubMed=12477932;
                                                                                                                                                                                                                                                        SEQUENCE FROM N.A., TISSUE=Placenta;
                                                                                                                                                                                                                                                                                                      Homo sapiens
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7; Conser
                                                                                                                                                                                           FROM N.A.,
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160
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                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                      (Human)
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                                                                                                                                                                                            AND VARIANT LEU-649.
                                                                                                                                                                                                                                                                 AND ALTERNATIVE
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EXTRACELLULAR (POTENTIAL).

5 (POTENTIAL).

CYTOPLASMIC (POTENTIAL).

6 (POTENTIAL).

EXTRACELLULAR (POTENTIAL).

7 (POTENTIAL).
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L; Mismatches
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CYTOPLASMIC (POTENTIAL).
N-LINKED (GLOAC. . .) (POTENTIAL).
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"Analysis gene.";

Genomics SEQUENCE

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SEQUENCE

TISSUE=Placenta;

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Tomatsu S., Fukuda S., Sukegawa K., Ikedo Y., Yam; Sasaki T., Okamoto H., Kuwahara T., Yamaguchi S., Shintaku H., Isshiki G., Orii T.; "Mucopolysaccharidosis type VII: characterization molecular heterogeneity."; Am. J. Hum. Genet. 48:89-96(1991).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                VARIANTS MPS-VII VAL-354 AND TRP-611.
MEDLINE=94154731; PubMed=8111413;
Wu B.M., Sly W.S.;
"Mutational studies in a patient with the mucopolysaccharidosis type VII.";
Hum. Mutat. 2:446-457(1993).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDLINE=96185449; PubMed=8599764; Jain S., Drendel W.B., Chen Z.W., Mathe "Structure of human beta-glucuronidase targeting and active-site motifs"; Nat. Struct. Biol. 3:375-381(1996).
                                                                                                                                                                                                        VARIANT MPS-VII CYS-627.
MEDLINE=93190983; PubMed=7680524;
Shipley J.M., Klinkenberg M., wu B.M.,
Sly W.S.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Vervoort R., Lissens W., Liebaers I.; "Molecular analysis of a patient with hydrops fetalis glucuronidase deficiency, and evidence for additional Hum. Mutat. 2:443-445(1993).
                                                                                                                                  "Mutational analysis of a patient with mucopolysaccharidosis VII, and identification of pseudogenes.";
Am. J. Hum. Genet. 52:517-526(1993).
                                                                                                                                                                                                                                                                                                                                                                                                                                                     VARIANTS MPS-VII CYS-382 AND VAL-619
MEDLINE=91090114; PubMed=1702266;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Zhang H., Li X.-J., Martin D.B., Aebersold R., "Identification and quantification of N-linked hydrazide chemistry, stable isotope labeling ar Nat. Biotechnol. 21:660-666(2003).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Tanaka J., Gasa S., Sakurada K., Miyazaki T., Kasai "Characterization of the subunits and sugar moiety cand leukemic beta-glucuronidase.";
and leukemic beta-glucuronidase.";
biol. Chem. Hoppe-Seyler 373:57-62(1992).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TISSUE=Fibroblast;
MEDLINE=85232043; PubMed=3924735;
Guise K.S., Korneluk R.G., Waye J., Lamhc
Palmer R., Ganschow R.E., Sly W.S., Grave
"Isolation and expression in Escherichia
human beta-glucuronidase.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              VARIANT MPS-VII TRP-216
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   X-RAY CRYSTALLOGRAPHY (2.6 ANGSTROMS).
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MEDLINE=22660472; PubMed=12754519;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MEDLINE=92162201; PubMed=1311180; Tanaka J., Gasa S., Sakurada K., Miyazaki
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Shipley J.M., Miller R.D., W
Kyle J.W., Sly W.S.;
"Analysis of the 5' flanking
    D-glucuronate.
SUBUNIT: Homotetramer
SUBCELLULAR LOCATION:
                                                                  FUNCTION: PLAYS AN IMI
AND KERATAN SULFATES.
CATALYTIC ACTIVITY: A
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                                                                                                                 IMPORTANT
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S., Kim
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                                                                      H(2)O = an alcohol
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    GO; GO:0004566; F:beta-glucuronidase activity; TAS
GO; GO:0005975; P:carbohydrate metabolism; TAS.
GO; GO:0006277; P:glycosaminoglycan catabolism; TAI
InterPro; IPR008979; Gal bind like.
InterPro; IPR008101; Glyco hydro 2.
InterPro; IPR006101; Glyco hydro 2.
InterPro; IPR006102; Glyco hydro 2.
InterPro; IPR006104; Glyco hydro 2.
InterPro; IPR006104; Glyco hydro 2.
InterPro; IPR006103; Glyco hydro 2.
InterPro; IPR006104; Glyco hydro 2.
InterPro; IPR006103; Glyco hydro 2.
InterPro; IPR00703; Glyco hydro 2.; 1.
Pfam; PF02836; Glyco hydro 2.; 1.
Pfam; PF02837; Glyco hydro 2.
IPR00705; GROSSOFT WYDDOT. ED 1. 1
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EMBL; BCC014142; AAH14142.1; --
EMBL; M55002; AAA52622.1; --
EMBL; M10618; AAA52621.1; --
EMBL; S72462; AAD14101.1; --
EMBL; S72462; AAD15101.1; --
EMBL; S72462; AAD15101.1; --
EMBL; S72462; AAD14101.1; --
EMBL; S72462;
STRAND
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CARBOHYD
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ACT SITE
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CARBOHYD
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PROSITE; PS00608; GLYCOSYL_HYDROL_F2_2; 1.

Hydrolase; Glycosidase; Lysosome; Glycoprotein; Signal;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MIM;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the EM the EMropean Bioinformatics Institute. There are no restrues by non-profit institutions as long as its content modified and this statement is not removed. Usage by and entitles requires a license agreenent (See http://www.isb-sorsend an email to license@isb-sib.ch).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mucopolysaccharidosis; Disease mutation; Alternative splicing; Polymorphism.
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ETM: GLYCOSYLATED WITH 3 TO 4 N-LINKED OLICOSACCHARIDE CHAINS. 

DISEASE: Defects in GUSB are the cause of mucopolysaccharidosis 

type VII (WPS-VII) [WIM:253220]; also known as Sly syndrome. This an autosomal recessive disorder characterized by excessive 

dermatan and heparan sulfates in the urine and Hurler-like
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    features.
SIMILARITY:
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R -> C (in MPS-VII).
/FTId=VAR 003198.

R -> W (in MPS-VII).
/FTId=VAR 003199.
A -> V (in MPS-VII).
                                          /FTId=VAR_003201.
P -> L (in dbSNP:
/FTId=VAR_016179.
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R -> W (in MPS-VII).
/FTId=VAR_003196.
A -> V (in MPS-VII).
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N-LINKED (GLCN
                                                                                                                                                                                                                                                                                                                                                                                                 N-LINKED
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/FTId=VAR_003200.
W -> C (in MPS-VII).
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MEDLINE=94154730;

Tomatsu S.,

Page 16

FT HELLX 57 60 FT TURN 61 62 FT TURN 63 65 FT TURN 63 65 FT TURN 63 65 FT STRAND 75 76 FT STRAND 75 76 FT STRAND 79 79  Query Match Best Local Similarity 58.3%; Pred. No. 32; Matches 7; Conservative 2; Mismatches 3; Indels 0; Gaps 0; Matches 7; Conservative 2; Mismatches 3; Indels 0; Gaps 0;  Qy 1 ARRARVVWAAVG 12	ქ ბ ა ა ა	B 8	Z W O	Ħ	ΉΉ	ŦŦ	FT	Ħ	FT	H.
60 62 62 65 71 76 76 78; Score 37; DB 1; Length 651; 58.3%; Pred. No. 32; 58.3%; Pred. No. 32; vative 2; Mismatches 3; Indels 0; Gaps avg 12 1: 1 1: 1 1: 1 2: 1 3: 1 3: 1 5: 1 5: 1 5: 1 5: 1 5: 1 5: 1 5: 1 5	rch complete time : 5.24	2 1 1	Query Match Best Local Si Matches 7;	STRAND	STRAND	HELIX	HELIX	TURN	HELIX	STRANL
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seq length: 2000000000
   protein search, using sw model
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1: sp_archea:*
2: sp_bacteria:*
3: sp_fungi:*
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170.244 Million cell updates/sec
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sp_virus:*
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sp_phage:*
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sp_mammal:*
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sp_rvirus:*
sp_bacteriap:*
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449
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Q79M570
Q95M57
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Q8CBA0
Q82HU3
Q82HU3
Q82HU3
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Q82hu3 streptomyce
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Q866x7 bos taurus
Q7u292 mycobacteri
Q98923 gallus gall
Q967x6 drosophila
                                                                              Q8tcd2 homo sapien
Q8iu92 homo sapien
Q8iu92 homo sapien
Q8wmn8 sus scrofa
Q7ys20 sus scrofa
Q95m57 bos taurus
Q8mi10 bos taurus
Q59702 pseudomonas
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O64065 bacteriopha	~	Q9kza5 streptomyce	O	Q9yaa3 aeropyrum p	Q93t31 azospirillu	487	9	saccha		O65342 saccharum o	U	7 zea mays (	Q829m0 streptomyce	42	Ψ	7	Q89ql0 bradyrhizob		2 2d S	œ	sod		Q8u3m8 pyrococcus		Q7whs3 bordetella		4z79 oryza sat	5 drosophila

## ALIGNMENTS

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Query Match
Best Local Similarity
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Q8TCD2;
01-JUN-2002 (TrEMBLrel. 2
01-JUN-2002 (TrEMBLrel. 2
01-OCT-2003 (TrEMBLrel. 2
                                                                                                                                                                                                                                                                                                                                                                                             InterPro; IPR001156; Transferrin.

Pfam; Pf00405; transferrin; 2.

PRINTS; PR00422; TRANSFERRIN.

SMART; SM000094; TR FER; 2.

PROSITE; PS00205; TRANSFERRIN_1; 2.

PROSITE; PS00206; TRANSFERRIN_2; 2.

PROSITE; PS00206; TRANSFERRIN_3; 2.

PROSITE; PS00207; TRANSFERRIN_3; 2.

Glycoprotein; Iron transport; Metal-binding; Transport.

Glycoprotein; Iron transport; Metal-binding; Transport.

SEQUENCE 711 AA; 78327 MW; 1B9C7EE097C45FAF CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NCBI_TaxID=9606;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRELIMINARY;
   93.3%;
91.7%;
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Last annotation updat
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       Score 56;
Pred. No.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   711
       DB 4;
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                                      Length 711;
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RESULT
QBIU92
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ID U92
ID U92
RC GN LIA
GN LIA
GN LIA
GN LIA
RR C Ma
RC RR
RT RT
RR SI
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OBLICATION
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OCC BUILD
OCC MAG
OCC 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              "Characterization of an amino acid polymorphism in the antibacterial RT domain of human lactoferrin.";
RI Submitted (JUL-2002) to the EMBL/GenBank/DDBJ databases.

EMBL; AY137470; AAN11304.1; -.

CR GO; GO:0005576; C:extracellular; IEA.

GO; GO:00068199; F:terric iron binding; IEA.

CR GO; GO:0006829; F:tron ion homeostasis; IEA.

DR GO; GO:0006826; P:tron ion transport; IEA.

DR GO; GO:0006826; P:tron ion transport; IEA.

DR FANTS; FRO0405; transferrin; 2.

DR PRONITS; PRO0405; TRANSFERRIN 1; 2.

PROSITE; PS00206; TRANSFERRIN 1; 2.

PROSITE; PS00206; TRANSFERRIN 2; 2.

DR PROSITE; PS00207; TRANSFERRIN 3; 2.

SEQUENCE 711 AA; 78396 MW; 547AB94Z3C27CE67 CRC64;
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Best Local S
Matches 11
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Q8IU92;
01-MAR-2003
TISSUE=Seminal von Baskar Singh S., Singh T.P.;
                                                                                                                                                                                                                                                                                                                                                                       Eukaryota; Metazoa; Chordata; Mammalia; Eutheria; Primates;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    01-MAR-2003 (TrEMBLrel 23, Created)
01-MAR-2003 (TrEMBLrel 23, Last sequence update)
01-CCT-2003 (TrEMBLrel 25, Last annotation update)
Lactotransferrin precursor (Lactoferrin).
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                                                                                                                                                                                              TISSUE=Mammary gland;
Shi Y.-Q., Zhang Y., Zheng Y.-M.;
"Homo sapiens Lactotransferrin Gene:
                                                                                                                                                                                                                                                                                                                                                                                                                                 Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Eukaryota; Metazoa;
Mammalia; Eutheria;
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01-OCT-2003
                                                                                          SEQUENCE FROM N.A.
                                                                                                                                                 Submitted
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                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A
                                                                                                                                                                                                                                                                                                                                         NCBI_TaxID=9606;
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                              Saravanan
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Primates;
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Pred. No. 0.24;
D; Mismatches
                                                                                                                                                                                                                                                                                                                                                                       Craniata; Vertebrata; Euteleostomi; Catarrhini; Hominidae; Homo.
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                              Srinivasan
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                                                                                                                                                             P. SEQUENCE FRAME N.A.

(C TISSUE=Mammary gland;

AW Wang S.-R., Lin T.-Y., Weng C.-N.;

Wang S.-R., Lin T.-Y.,

Wang S.-R., Lin T.-Y.,

"Isolation and expression of porcine milk lactoferrin.";

"Isolation and expression of porcine milk lactoferrin.";

RI Submitted (DEC-2001) to the EMBL/GenBank/DDBJ databases.

CC C.-I.- FUNCTION: TRANSFERRINS ARE IRON BINDING TRANSPORT PROTEINS

CC CAN BIND TWO ATOMS OF ERRRIC IRON IN ASSOCIATION WITH THE

CC OF AN ANION, USUALLY BICARBONATE (BY SIMILARITY).

CC OF AN ANION SUSUALLY BICARBONATE (BY SIMILARITY).

CC OF AN ANION SUSUALLY BICARBONATE (BY SIMILARITY).

CC OF AN ANION SUSUALLY BICARBONATE (BY SIMILARITY).

CR GO, GO.0005576; C:extracellular; IEA.

DR GO, GO.0005576; P. SICON binding; IEA.

DR GO, GO.0006836; P. FICON ion binding; IEA.

DR GO, GO.0006836; P. FICON ion transport; IEA.

DR Fam; PRO061156; Transferrin, 2.

DR PRINTS; PRO0422; TRANSFERRIN 1; 2.

PRINTS; PRO0422; TRANSFERRIN 1; 2.

PR PROSITE; PS00206; TRANSFERRIN 3; 1.

DR PROSITE; PS00206; TRANSFERRIN 3; 1.

PROSITE; PS00206; TRANSFERRIN 3; 1.

PROSITE; PS00206; TRANSFERRIN 3; 1.

PROSITE; PS00207; TRANSFERRIN 3; 1.
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Matches
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Best Local S
Matches 11
                                                                                 Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       "Homo sapiens lactoferrin (HLF) mRNA.";
Submitted (DEC-2002) to the EMBL/GenBank/I
EMBL, AX153046, AANG3998.1;
EMBL, AX178998, AAN75578.2;
GO; GO:0005576; C:extracellular; IEA.
GO; GO:0008199; F:ferric iron binding; IEA.
GO; GO:0008199; P:ferric iron bomeostasis; IEA.
GO; GO:0006879; P:iron ion homeostasis; IEA.
GO; GO:0006879; P:iron ion transport; IEA.
InterPro, IPR001156; Transferrin.
Pfam, PF00405; transferrin.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             01-MAR-2002
01-MAR-2002
01-OCT-2003
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Signal.
SIGNAL
CHAIN
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRINTS; PR00422; TRANSFERRIN.
SMART; SM00094; TR FER; 2.
PROSITE; PS00205; TRANSFERRIN_1;
PROSITE; PS00206; TRANSFERRIN_2;
PROSITE; PS00207; TRANSFERRIN_3;
                                                                                                                                           SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sus scrofa (Pig).
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                                                         Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    4
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                           Similarity
9; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Similarity
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711 AA;
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                              Conservative
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711
78382
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                                                                                                                                              77681 MW;
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91.7%;
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75.0%;
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Last sequence update)
Last annotation update)
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                                                   Score 49; I
Pred. No. 3.
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Pred. No. 0.24;
0; Mismatches
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LACTOTRANSFERRIN.
547BFC42C9267E67
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                           red. No. 3.8;
Mismatches
                                                                                                                                           64EE769F7503CC32 CRC64;
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; IEA.
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ص
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RESULT 6

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ID Q7
AC Q7
DT 01
DT 01
DT 01
DT 01
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DT 01
RAC Q7
RC RW SU
RC RW [1]
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Matches 9
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01-DEC-2001
01-DEC-2001
01-OCT-2003
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01-OCT-2003
01-OCT-2003
01-OCT-2003
                                                                                                                                                                                                                                                  EMBL; AV036583; AAK66816.1; JOINED.
EMBL; AV036581; AAK66816.1; JOINED.
GO; GO:0005576; C:extracellular; IEA.
GO; GO:0005819; F:ferric iron binding; IEA.
GO; GO:0006879; P:iron ion homeostasis; IEA.
GO; GO:0006826; P:iron ion transport; IEA.
InterPro; IPR001156; Transferrin.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PISSUE-Mammary gland;
Pecorini C., Fogher C., Baldi A.;
Pecorini C., Fogher C., Baldi A.;
"The nucleotide sequence of porcine lactoferrin cDNA.";
Submitted (MAY-2003) to the EMBL/GenBank/DDBJ databases
EMBL; AY306198; AAP70487.1; -
                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE OF 1-40 FROM N.A.
Li G., Zhang Y., Li N.,
"Analysis of the 5'-region of the bovine lactoferrin gene
                                                                                                                                             SEQÜENCE
                                                                                                                                                                                                                                 InterPro; IPR001156; Transferr
Pfam; PF00405; transferrin; 2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mammalia; Eutheria; Ce
Bovidae; Bovinae; Bos.
NCBI_TaxID=9913;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Eukaryota; Metazoa; Chordata; Crania;
Mammalia; Eutheria; Cetartiodactyla;
                                                                                                                                                                                                                                                                                                                                                                                                            Submitted (MAY-2001) to the EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Bos taurus (Bovine).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Lactoferrin (Fragment).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Eukaryota; Metazoa;
Mammalia; Eutheria;
NCBI_TaxID=9823;
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                                                h 75.0%;
Similarity 75.0%;
9; Conservative
                                                                                                                                                                                                         PR00422; TRANSFERRIN.
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       ARRARVVWAAVG 12
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3 (TrEMBLrel.
3 (TrEMBLrel.
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                                                                                                                                           AA;
                                                                                                                                 112
; 12491 MW;
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77522 MW; AAC8E1767E56BF6A CRC64;
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75.0%;
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                                             Score 45; DB 6 Pred. No. 3.1; 0; Mismatches
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Last sequence update)
Last annotation updat
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Last annotation update)
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                                                                                                                                        CFEC01CB3F953FBA CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ta; Vertebrata; Euteleostomi;
Ruminantia; Pecora; Bovoidea;
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3.8;
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                                                                                        Length 112;
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                                                  Indels
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OSMIIO,
OLICOT-2002 (TIEMBLIEL, 2
01-OCT-2002 (TIEMBLIEL, 2
01-OCT-2003 (TIEMBLIEL, 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NON TER
                                        STRAIN=NCIME 9866;
MEDLINE=95014081; PubMed=7929007;
MEDLINE=95014081; PubMed=7929007;
Kim J., Puller J.H., Cecchini G., McIntire W.S.;
"Cloning, sequencing, and expression of the structural genes for the "Cloning, sequencing, and expression of the structural genes for the cytochrome and flavoprotein subunits of p-cresol methylhydroxylase from two strains of Pseudomonas putida.";
J. Bacteriol. 176:6349-6361(1994).
                                                                                                                                                                                                                                                                                                                                                                                                       Q59702;
01-NOV-1996 (TrEMBLrel. 01,
01-NOV-1999 (TrEMBLrel. 12,
01-JUN-2003 (TrEMBLrel. 24,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Pfam; PF00405; transferrin; 1.
PRINTS; PR00432; TRANSFERRIN.
SMART; SM00094; TR FER; 1.
PROSITE; PS00205; TRANSFERRIN 1;
PROSITE; PS00206; TRANSFERRIN_2;
                                                                                                                                                                                                                                                                                                            Pseudomonas putida.
Plasmid pRA4000.
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                                                                                                                                                                                                                                                                     Bacteria; Proteobacteria; Pseudomonadaceae; Pseudomonadaceae;
                                                                                                                                                                                                                                                                                                                                                                                  P-hydroxybenzaldehyde
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PROSITE; PS00206; TRANSFERRIN_2; 1.
PROSITE; PS00207; TRANSFERRIN_3; 1.
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GO; GO:000819; F:ferric iron binding; IEA.
GO; GO:0006879; P:iron ion homeostasis; IEA.
GO; GO:0006826; P:iron ion transport; IEA.
InterPro; IPRO11156; Transferrin.
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Montreuil J., Spik G.,
"Molecular cloning and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Bos taurus (Bovine).

Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea

Bovidae; Bovinae; Bos.

MCBI_TaxID=9913;
SEQUENCE FROM N.A.
                                                                                                                                                                                                  PARTIAL SEQUENCE FROM N.A.
                                                                                                                                                                                                                                           NCBI_TaxID=303;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDLINE=91160550; PubMed=2001696; Pierce A., Colavizza D., Benaissa Montreuil J., Spik G.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A.
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7. Blochem. 196:177-184(1991).

X17066; CAA34912.1; -.

OLONGEETS
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Pred. No. 9.6;
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PIR; T4684; T4684.

HSSP; P51977; 1BXS.

GO; GO:0016491; F:cxidoreductase activity; IEA.
GO; GO:0016491; F:cxidoreductase activity; IEA.
GO; GO:0016491; F:cxidoreductase activity; IEA.
GO; GO:0016491; Aldehyde_dehydr.
FFAM; PF00171; aldedh; 1.

PROSITE; PS00070; ALDEHYDE_DEHYDR_CYS; 1.
PROSITE; PS00070; ALDEHYDE_DEHYDR_GLU; 1.
OXIdoreductase; Plasmid.
SEQUENCE 491 AA; 53156 MW; 70C45CE4212663.
Query Match
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Q8CBA0;
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                                                                PRINTS; PR00422; TRANSFERRIN.

SMART; SM00094; TR PER; 2.

PROSITE; PS00205; TRANSFERRIN_1; 1.

PROSITE; PS00206; TRANSFERRIN_2; 2.

PROSITE; PS00206; TRANSFERRIN_3; 2.

PROSITE; PS00207; TRANSFERRIN_3; 2.

SEQUENCE 707 AA; 77837 MW; E1B32F5FD8748A0F CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      "the RIKEN Genome Exploration Research "Analysis of the mouse transcriptome to 770 full-length cDNAs";
Nature 420.563-573(2002).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Eukaryota; Metazoa; Chordata; Mammalia; Eutheria; Rodentia;
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STRAIN=C57BL/6J; TISSUE=Bone;
MEDLINE=22354683; PubMed=12466851;
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01-OCT-2003
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GO; GO:0006826; P:iron ion transport;
InterPro; IPR001156; Transferrin.
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                                                                                                                                                                                                                                                                      PF00405; transferrin;
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Chordata;
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THE ALDEHYDE DEHYDROGENASES FAMILY
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Q82HU3;
01-JUN-2003
01-JUN-2003
01-OCT-2003
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Complete
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              "Complete genome sequence and comparative microorganism Streptomyces avermitilis."; Nat. Biotechnol. 21:526-531(2003).
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01-JUN-2003 (TrEMBLrel. 24, Last sequence update)
01-JCT-2003 (TrEMBLrel. 25, Last annotation update)
putative short-chain dehydrogenase.
                                 01-OCT-2002 (TrEMBLrel. 22, Last annotation update)
81148012.15 protein (P0454H12.9 protein).
81148012.15 OR P0454H12.9
81148012.15 OR P0454H12.9
Oryza sativa (Rice).
80karyota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
8permatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae;
8phrhartoideae; Oryzeae; Oryza.
                                                                                                                                                                                                                                                                                               Q93VW3;
01-DEC-2001
                                                                                                                                                                                                                                                                                                                                                     Q93VW3
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Sakaki Y., Hattori M., Omura S.;
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STRAIN=MA-4680 / A
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PF00106; adh_short; 1.
TE; PS00061; ADH_SHORT; 1.
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(TrEMBLrel. 19, Last sequence up
(TrEMBLrel. 22, Last annotation
protein (P0454H12.9 protein).
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SEQUENCE FROM N.A.
KEDLINE=22484998; PubMed=12597275;
MEDLINE=22484998; PubMed=12597275;
MEDLINE=22484998; PubMed=12597275;
MEDLINE=22484998; Malanumi T., Kamada K., Kanako T., Vamada K., Sasamoto S., Watanabe A., Idesawa K., Iriguchi M., Kawashima K., Sasamoto S., Watanabe Marsumoto M., Shimpo S., Tsuruoka H., Wada T., Yamada
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O1-UUN-2003 (TrEMBLrel. 24, Last sequence update)
O1-OCT-2003 (TrEMBLrel. 25, Last annotation update)
Transcriptional regulatory protein.
BLA7984.
       Q866X7
                                                                                                                                                              SEQUENCE
                                                                                                                                                                                 InterPro; IPR001647; HTH TetR. Pfam; PF00440; tetR; 1. PRINTS; PR00455; HTHTETR.
                                                                                                                                                                                                                   "Complete genomic sequence of nitrogen-fixing Bradyrhizobium japonicum USDA110."; DNA Res. 9:189-197(2002). EMBL; AP005964; BAC53249.1; -. GO; GO:0003700; F:transcription factor activit GO; GO:0006355; F:regulation of transcription,
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Sasaki T., Matsumoto T., Yamamoto K.;
"Oryza sativa nipponbare(GA3) genomic
clone:P0454H12.";
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Sasaki T., Matsumoto T., Yamamoto K.;
"Oryza sativa nipponbare(GA3) genomic
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SEQUENCE FROM N.A.
                                                                                                              Local Similarity nes 7; Conserv
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Pred. No. 38;
3; Mismatches
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transcription, DNA-dependent;
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                                                                                                                                Length 187;
                                                                                                                                                            CRC64;
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Matches 8
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SEQUENCE FROM N.A.

STRAIN-AF72122/97;

MEDLINE-22709107; PubMed=12788972;

MEDLINE-22709107; PubMed=12788972;

Garnier T., Eiglmeier K., Camus J.-C., Medina N., Mansoor H.,

Provor M., Duthoy S., Grondin S., Lacroix C., Monsempe C., Simon S.,

Harris B., Atkin R., Doggett J., Mayes R., Keating L., Wheeler P.R.,

Parkhill J., Barrell B.G., Cole S.T., Gordon S.V., Hewinson R.G.;

"The complete genome sequence of Mycobacterium bovis.";

Proc. Natl. Acad. Sci. U.S.A. 100:7877-7882(2003).

EMBL; B248335; CAD93198.1; -.

Oxidoreductase; Complete proteome.

Oxidoreductase; Complete proteome.
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01-OCT-2003
01-OCT-2003
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01-OCT-2003 (TrEMBLrel. 25, Last sequence update)
01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
Possible cytochrome P450 135A1 (YP135A1 (EC 1.14.-).
CYP135A1 OR MB0334C.
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GO; GO:0004089; F:carbonate dehydratase activity; IEA.
GO; GO:0008270; F:zinc ion binding; IEA.
GO; GO:0006730; P:one-carbon compound metabolism; IEA.
InterPro; IPR001148; Euk COanhd.
Pfam; PF00194; carb_anhydrase; 1.
ProDom; PD000865; Euk COanhd; 1.
SEQUENCE 328 AA; 36144 MW; 29C7249B693D5006 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Corynebacterineae; Mycobacteriaceae; Mycobacterium
NCBI_TaxID=1765;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Bacteria; Actinobacteria; Actinobacteridae; Actinomycetales;
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01-JUN-2003 (TrEMBLrel. 24, Created)
01-JUN-2003 (TrEMBLrel. 25, Last sequence update)
01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
Carbonic anhydrase-related XI protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (CAR) genes.";
Submitted (JAN-2002) to the
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8; Conserv
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OSQUVWAAVG
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70.0%;
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3; Mismatches
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2; Mismatches
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Search completed: September 1, 2004, 00:15:38 Job time : 25.24 secs
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01-FEB-1997 (TrEMBLrel. 02, Created)
01-FEB-1997 (TrEMBLrel. 02, Last sequence update)
01-CCT-2003 (TrEMBLrel. 25, Last annotation update)
11-CCT-2003 (TrEMBLrel. 25, Last annotation update)
HEMCAM precursor.
Gallus gallus (Chicken).
Eukaryota, Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Archosauria; Meres; Neognathae; Galliformes; Phasianidae; Phasianinae;
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487 RAGRVLWAALG 497
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36 504 F
504 AA; 55540 MW;
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POTENTIAL.
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## ALIGNMENTS

RESULT 1 AAW93872 ID AAW9

AAW93872 standard; peptide; 10

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27-AUG-2003 25-JUN-1999 AAW93872;

(revised) (first en

entry)

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bacteria; fungi; yeast; protozoa; virus; mycoplasma; filaria; plasmodia; infection; inflammation; microbial induced tumour; degenerative disorder; diarrhoea; colic; oral microflora; intestinal microflora; caries;
                                                                                                                                                                                                                                                                                                        Bifidobacterium bifidus stimulating peptide
                                                                                                                    WPI; 1999-244022/20.
                                                                                                                                    Forssmann W,
                                                                                                                                                                    16-SEP-1997;
11-FEB-1998;
                                                                                                                                                                                                                                           Bifidobacterium bifidum.
                                                                                                                                                                                                                                                                                         Bifidogenic peptide; protease; treatment; microbe-related disease;
                                                                                                                                                    (FORS/) FORSSMANN W.
                                                                                                                                                                                            16-SEP-1998;
                                                                                                                                                                                                            25-MAR-1999.
                                                                                                                                                                                                                                                            vaginal microflora.
                                                                                                                                   Zucht H,
                                                                                                                                                                   97DE-01040604.
98DE-01005385.
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This invention describes milk-derived bifidogenic peptides and their active derivatives or fragments, and combinations of them produced by chemical coupling. Such are produced from bovine or human milk by treatment for 2 hr with proteases, then centrifuging to remove fat and acidifying to pH 2 to precipitate proteins. The solution phase is then subjected to reverse-phase high-performance liquid chromatography (HPLC) and cation-exchange HPLC, the fractions adjusted to salt content below 25 mM (by dialysis or reverse-phase HPLC) and tested for activity by growing Bifidobacterium bifidus and Escherichia coli in presence of the fractions. Those fractions for which (Bw-B0)-(Ew-E0) is at least 0.15 are

Claim 2; Page 3; 25pp; German.

Milk-derived peptides that stimulate Bifidobacterium bifidus

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RESULT 2
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ID AAB6
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KW MCM;
KW McM;
KW Meli
XX WO20
XX 08-F
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The invention provides a composition (A) for enhancing nucleic acid polymerase reactions that comprises an archaeal MCM (minichromosome maintenance protein) and at least one of the archaeal polymeptides (PCNA, RPC-P38 or -P55, RFA, CDC6, FEN-1, dUTPase, ligase, helicase dna2, or helicases 2-8). (A) And similar compositions containing different combinations of accessory proteins, are used to improve performance of synthesis, amplification, mutagenizing, labeling and detecting reactions, e.g. for gene characterization, cloning, detection of allelic variants, diagnosis and screening for disease, particularly where done by polymerase chain reaction (PCR). Some of the proteins also stabilize duplexes during polymerase reactions or improve exonuclease reactions, for example RFA also improves specificity of nucleic acid/protein interaction and PCNA improves polymerase-mediated repair processes and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               selected where Bw = germ count after 16 hr culture of B. bifidus in 50% Elliker broth containing peptide at 0.2 mg/ml, B0 = germ count under similar conditions in a peptide-free contro/n. Fw = germ count after 16 hr culture of E. coli in 3 g/l tryptic broth containing peptide at 0.2 mg/ml, E0 = germ count under similar conditions in a peptide-free control. The peptides AAW93865-W33888 are used to treat microbe-related diseases caused by bacteria, fungi, yeast, protozoa, viruses, mycoplasma, filaria and plasmodia, e.g. infections, inflammation, microbially induced tumours or degenerative disorders, diarrhoea, colic, abnormalities in oral, intestinal or vaginal microflora, or caries. (Updated on 27-AUG-2003 to correct OS field.)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Claim 182; Fig 31; 147pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Composition for improving nucleic acid polymerase reactions, useful e.g. in synthesis or amplification, contains at least one archaeal accessory
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Pred. No. 0.013;
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RESULT 3
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Best Local
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                      AAW71180-83 represent N-terminally truncated human lactoferrin proteins. The lactoferrin variants bind heparin with lower affinity than natural lactoferrin. The lactoferrin variants exhibit biological activities such as anti-inflammatory, anti-viral and anti-infective activities as well as a pro- and anti-coagulant effects, modulation of complement activation, inhibition of LPS mediated activation of neutrophils, inhibition of myelopolesis, regulation of transcription, growth promotion of intestinal epithelial cells, inhibition of hydroxyl-radical formation, and a role in intestinal iron uptake and excretion note: this sequence does not appear in the specification; it was created uing information provided
                                                                                                                                                                                                                                                     rheumatoid arthritis.
                                                                                                                                                                                                                                                                        Compositions containing human lactoferrin and variants - are used for treating e.g. anaemia, iron-storage disease, inflammation, tumours,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               hybridization reactions. Nucleic acids encoding the archaeal polypeptides are used for recombinant production of proteins, and fragments of the nucleic acid as probes and primers for screening related sequences. The accessory proteins increase accuracy and efficiency of polymerase reactions, allow use of lower denaturation and extension temperatures (possibly isothermal processing), and improve synthesis of long targets. The present sequence represents a P. furiosus recombinant helicase 4
                                                                                                                                                                                                                       Claim 2; Page; 70pp; English.
                                                                                                                                                                                                                                                                                                                              WPI; 1998-437164/37.
                                                                                                                                                                                                                                                                                                                                                              Nuijens J,
                                                                                                                                                                                                                                                                                                                                                                                                                                    03-FEB-1997;
02-FEB-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     02-FEB-1998;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Human; lactoferrin protein; variant; anti-inflammatory; anti-viral; anti-infective; coagulant; complement activation; inhibition; LPS mediated activation; myelopoiesis; growth promotion; intestinal epithelial cell; hydroxyl-radical formation; intestinal iron uptake; excretion.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Human; lactorers
anti-infective;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mutant human lactoferrin protein designated hLF-5N
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        06-AUG-1998.
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                                                                                                                                                                                                                                                                                                                                                                Van Berkel
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98US-00017043
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Pred. No.
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52;
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Query Match

Score 39.5;

DB N --

Length 687

Sequence 687

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Matches 10
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                                                                                                                                         The sequence represents the human lactoferrin (hLF) protein variant hLF-NN. The invention relates to novel methods of treatment using high doses of lactoferrin. The methods of the invention are useful for the treatment or prophylaxis of infectious disease, inflammatory diseases and excess of heparin e.g. gastroenteritis, inflammatory bowel disease, sepsis, anaemia, myelopoleses, reducing reperfusion injury, cytokine release and proteoglycan-mediated entry of virus into cells. The advantage of the method is that the patient is substantially free of side effect responses to administration of lactoferrin. Therefore large doses of lactoferrin can be administered. Note: The present sequence is not shown in the specification but is derived from human willattype lactoferrin sequence riven in the sequence
                                                                                                         Sequence 687 AA;
                                                                                                                                given in the sequence listing of the specification
                                                                                                                                                                                                                                                                                                              Claim 10; Page; 49pp; English.
                                                                                                                                                                                                                                                                                                                                       Use of lactoferrin for treatment diseases and excess of heparin.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Human; lactoferrin; hLF; infectious disease; inflammatory disease; excess of heparin; gastroenteritis; inflammatory bowel disease; sepsis; anaemia; myelopolese; reperfusion injury; cytokine release; proteoglycan; hLF-5N; mutant; mutein.
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27-MAR-2000; 2000US-0193352P.
                                                                                                                                                                                                                                                                                                                                                                                                                                      (PHAR-) PHARMING INTELLECTUAL
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                          1 EVAA-RARVVW 10
                                                     10;
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EVAARRARVVW 343
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                                                  Conservative
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                                                                 79.0%;
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Pred. No. 69;
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                                                                            DB 4; Length 687;
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RESULT 5
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XX Huma
KW Inte
XX Synt
XX Inte
XX Synt
OS Homo
PN WO98
XX O3-F
PR 02-F
PR 10-F
PR 10-F
PR 02-F
PR 0
RESULT 6
AAG77910
ID AAG7
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Best Local
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                                                 Human lactoferrin variant hLF-4N.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Compositions containing human lactoferrin and variants - a treating e.g. anaemia, iron-storage disease, inflammation, rheumatoid arthritis, ulcerative colitis or infections.
                                                                                                                 22-JAN-2002
                                                                                                                                                                                                                             AAG77910 standard; protein; 688 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 688 AA;
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anti-infective; coagulant; complement activation; inhibition;
LPS mediated activation; wyelopoiesis; growth promotion;
intestinal epithelial cell; hydroxyl-radical formation;
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                                                                                                        (first entry)
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98US-00017043
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Pred. No. 69;
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infectious

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RESULT 7
AAW71181
ID AAW
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XX AAW
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Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                The sequence represents the human lactoferrin (hLF) protein variant hLF-4N. The invention relates to novel methods of treatment using high doses of lactoferrin. The methods of the invention are useful for the treatment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Use
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27-MAR-2000;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        excess of heparin; gastroenteritis; inflammatory bowel disease; sepsis; anaemia; myelopoiese; reperfusion injury; cytokine release; proteoglycan;
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                    Homo
                                  Synthetic
                                                                    intestinal iron
                                                                                LPS mediated activation; myelopoiesis; growth promotion;
intestinal epithelial cell; hydroxyl-radical formation;
                                                                                                                anti-infective; coagulant;
                                                                                                                                                                Mutant human
                                                                                                                                                                                                 27-OCT-1998
                                                                                                                                                                                                                                AAW71181;
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eases and excess
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                    sapiens
                                                                                                             lactoferrin protein; variant; anti-inflammatory; anti-viral; nfective; coagulant; complement activation; inhibition;
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2000US-0193352P.
                                                                                                                                                               lactoferrin protein designated hLF-3N
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                                                                  uptake; excretion
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Pred. No. 69;
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RESULT 8
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Matches 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAW71180-83 represent N-terminally truncated human lactoferrin proteins. The lactoferrin variants bind heparin with lower affinity than natural lactoferrin. The lactoferrin variants exhibit biological activities such as anti-inflammatory, anti-viral and anti-infective activities as well as a pro- and anti-oagulant effects, modulation of complement activation, inhibition of LPS mediated activation of neutrophils, inhibition of myelopoiesis, regulation of transcription, growth promotion of intestinal epithelial cells, inhibition of hydroxyl-radical formation, and a role in intestinal iron uptake and excretion. note: this sequence does not appear in the specification; it was created uing information provided
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Compositions containing human lactoferrin and variants - a treating e.g. anaemia, iron-storage disease, inflammation, rheumatoid arthritis, ulcerative colitis or infections.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     03-FEB-1997;
02-FEB-1998;
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                                                                                                                                                                                               Human; lactoferrin; hLF; infectious disease; inflammatory disease; excess of heparin; gastroenteritis; inflammatory bowel disease; sepsis; anaemia; myelopoiese; reperfusion injury; cytokine release; proteoglyca mutant; mutein; hLF-3N; mutant; mutein.
                                                                                                                                                                                                                                                            Human lactoferrin variant hLF-3N.
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          27-MAR-2000;
27-MAR-2000;
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          2000EP-00201110
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98US-00017043
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                                                                                                                                                                                                                release; proteoglycan;
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                       Compositions containing human lactoferrin and variants - are used for treating e.g. anaemia, iron-storage disease, inflammation, tumours,
                                                                                                                                                     03-FEB-1997;
02-FEB-1998;
                                                                                                                                                                                                                                                                                                                                   Human; lactoferrin protein; variant; anti-inflammatory; anti-viral; anti-infective; coagulant; complement activation; inhibition; LFS mediated activation; wyelopoiesis; growth promotion; intestinal epithelial cell; hydroxyl-radical formation;
             treating e.g. anaemia, iron-storage disease, inflammati rheumatoid arthritis, ulcerative colitis or infections.
                                                                     WPI; 1998-437164/37.
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The sequence represents the human lactoferrin (hLF) protein variant hLF-ZN. The invention relates to novel methods of treatment using high doses of lactoferrin. The methods of the invention are useful for the treatment or prophylaxis of infectious diseases, inflammatory diseases and excess of heparin e.g. gastroenteritis, inflammatory bowel disease, sepsis, anaemia, myelopoieses, reducing reperfusion injury, cytokine release and proteoglycan-mediated entry of virus into cells. The advantage of the method is that the patient is substantially free of side effect responses
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Domain
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                                                                                                                                                                         Use of lactoferrin for treatment of infectious diseases, diseases and excess of heparin.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Human; lactoferrin; hLF; infectious disease; inflammatory disease; excess of heparin; gastroenteritis; inflammatory bowel disease; sepsis; anaemia; myelopoiesis; reperfusion injury; cytokine release; proteoglycan; hLF-2N; mutant; mutein.
                                                                                                                                            Claim 10; Page; 49pp;
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27-MAR-2000;
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26. .29
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Pred. No. 69;
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The invention describes a method of producing a heterologous polypeptide (I) in a grain of a plant, comprising ulturing a transformed plant (PI) C comprising a first chimeric gene, and optionally, at least one heterologous transcription factor that is capable of enhancing the heterologous transcription factor that is capable of enhancing the glant (PI), and recovering transgenic grains containing (I) from P2. The compression of the chimeric gene, to form a grain producing transforming plant (PI), and recovering transgenic grains containing (I) from P2. The complex of the producing heterologous polypeptide in a grain of a plant. (I) is a non-plant storage, human or non-human animal, milk or other than a milk polypeptide, antibodies, cytokines, lymphokines, complatation factors, anti-confectives, or cytotoxins, or anti-inflammatory molecule or intestinal traffic factor (ITF) or its active fragment. Preferably, (I) is completed in the confective growth factor (KGF), insulin-like growth factor (EGF), cartitrypsin, immunoglobulins, lattoperoxidase, alpha-1-catalbumin, beta-casein, abumin, fibrinogen or protesse inhibitor. This is the amino acid sequence of a protein associated with method of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      14-FEB-2001;
14-FEB-2001;
02-MAY-2001;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    to administration of lactoferrin. Therefore large doses of lactoferrin can be administered. Note: The present sequence is not shown in the specification but is derived from human wild-type lactoferrin sequence given in the sequence listing of the specification
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 690
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     producing heterologous polypeptide in plant grain, by culturing transformed plant to form a grain-producing transforming plant, and recovering transgenic grains containing polypeptide from transformed
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Transformed plant; heterologous transcription factor; transgenic plant;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Codon optimised lactoferrin protein.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Huang N,
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2001US-0269199P.
2001US-00847232.
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Pred. No. 69;
0; Mismatches
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Query Match
Best Local S
Matches 10
                                                                                 one or more plant-derived feed ingredients, substantially unsupplemented with small-molecule antibiotics and as an additive a seed composition containing a flour, extract or malt obtained from mature monocot seeds and one or more heterologous seed-produced anti-microbial proteins in substantially unpurified form. The invention is useful as a feed for production animals such as poultry and hoofed farm animals. The present sequence is human codon optimised lactoferrin. This sequence is used in
                                                                                                                                                                                                                                  Improved feed for production animals, comprising plant-derived feed ingredients, and seed composition containing flour, extract, or malt from mature monocot seeds and heterologous seed-produced anti-microbial
                                                                                                                                                                                                                                                                                  WPI; 2002-682708/73.
N-PSDB; AAD45297.
                                                                                                                                                                                                                                                                                                                                                                       14-FEB-2001; 2001US-0269188P 02-MAY-2001; 2001US-00847232
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Human; feed improvement; plant-derived feed; antibiotic; additive;
anti-microbial; poultry; lactoferrin; flour; malt.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAE27884;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      producing a transgenic
                                               Sequence 690 AA;
                                                                                                                                                                                                                                                                                                                                                                                                            14-FEB-2002; 2002WO-US004919
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Human codon
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                                                                                                                                                                                                                         proteins.
                                                                                                                                                                                                                                                                                                                                                 (VENT-)
                                                                        sequence is human the invention
                                                                                                                                                          The invention relates to improved feed for production animals, comprising one or more plant-derived feed ingredients, substantially unsupplemented
                                                                                                                                                                                               Example 7; Page 148-150;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 336
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  690
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            optimised lactoferrin.
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              79.0%;
90.9%;
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Pred. No. 69;
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  Score 39.5; I
Pred. No. 69;
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                        Length 690;
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RESULT 14
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   inflammatory response; cytokine production reduction; neutrophil degranulation; myelopoiesis inhibition.
                         Human; lactoferrin; hLF; N-terminal; antimicrobial; heparin;
                                                                                                   AAB97382;
                                                                                                                        AAB97382 standard;
                                                                                                                                                                                                                                                                                        The present sequence is that of human lactoferrin. The invention relates to a synthetic gene (see AAZ58122) that encodes human lactoferrin but which has codon usage designed to maximise expression in plants. Transgenic plants that express human lactoferrin in a tissue-specific manner, especially in the seeds, can be used in processes for the production of functional vegetal milk, fruit juices, fruit and/or vegetable homogenized foods (claimed). The transgenic plants are selected from solanaceae, cereals, leguminosae, fruit bearing plants and horticultural plants, especially soybean, tobacco and rice
                                                    Human
                                                                          17-AUG-2001
                                                                                                                                                                                                                                                                          Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                Synthetic polynucleotide encoding human lactoferrin, used for of functional foods, vegetal milks and human lactoferrin.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          N-PSDB; AAZ58122.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        17-JUL-1998;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Lactoferrin; human;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Human lactoferrin.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (PLAN-) PLANTECHNO SRL
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2000-161129/14.
                                                                                                                                                                                 338
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                                                                                                                                                                                EVAARRARVVW 348
                                                                                                                                                                                                     EVAA-RARVVW 10
                                                                                                                                                                                                                                                                          692 AA;
                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                               Page 73-77;
                                                                         (first
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                                                    (hLF).
                                                                                                                      protein;
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                                                                                                                                                                                                                                                                                                                                                                                                              93pp; English.
                                                                                                                      692 AA
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Pred. No. 6
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                                                   Human; lactoferrin; hLF; infectious disease; inflammatory disease; excess of heparin; gastroenteritis; inflammatory bowel disease; se anaemia; myelopoiesis; reperfusion injury; cytokine release;
                                                                                                                                                18-JAN-2002
                                                                                                                                                                                                         AAG77906
                                                                                                                  Human lactoferrin.
                                                                                                                                                                              AAG77906;
                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 692 AA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Claim 1; Page
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WPI; 2001-335909/35.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Van Berkel PHC,
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11-NOV-1999;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (PHAR-) PHARMING INTELLECTUAL PROPERTY
                                                                                                                                                                                                                                                                                338 EVAARRARVVW 348
                                                                                                                                                                                                                                                                                                                                            10;
                                                                                                                                                                                                                                                                                                              1 EVAA-RARVVW 10
                                                                                                                                                                                                                                                                                                                                                          Similarity
                                                                                                                                                                                                         standard;
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99US-0164975P.
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referred to in the claims"
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                                                                                                                                                                                                       protein;
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                                                                                                                                                                                                       692 AA
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Pred. No. 6
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Search completed: September 1, Job time: 28.0667 secs
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                                                                                                                 Query Match 79.0%;
Best Local Similarity 90.9%;
Matches 10; Conservative
                                                                                                                                                                                                                 The sequence represents the human lactoferrin (hLF) protein. The methods of the invention are useful for the treatment or prophylaxis of infectious diseases, inflammatory diseases and excess of heparin e.g. gastroenteritis, inflammatory bowel disease, sepsis, anaemia, myelopoieses, reducing reperfusion injury, cytokine release and proteoglycan-mediated entry of virus into cells. The advantage of the method is that the patient is substantially free of side effect responses to administration of lactoferrin. Therefore large doses of lactoferrin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Key
Domain
                                                                                                                                                                         Sequence 692 AA;
                                                                                                                                                                                                                                                                                                                                                  Claim 26; Page 47-49; 49pp; English.
                                                                                                                                                                                                                                                                                                                                                                              Use of lactoferrin for treatment of infectious diseases, inflammatory diseases and excess of heparin.
                                                                                                                                                                                                                                                                                                                                                                                                                          WPI; 2001-648424/74.
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Van Bree JBMM, Nuijens JH;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              27-MAR-2000; 2000EP-00201110.
27-MAR-2000; 2000US-0193352P.
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                                                       1 EVAA-RARVVW 10
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338 EVAARRARVVW 348
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               2004, 00:09:43
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Pred. No. 69;
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OM protein

protein search, using sw model

GenCore version 5.1.6 Copyright (c) 1993 - 2004 Compugen Ltd.

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Result
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Perfect score:
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2: /cgn2_6/ptodata/2/iaa/5B_COMB.pep:*

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4: /cgn2_6/ptodata/2/iaa/6B_COMB.pep:*

5: /cgn2_6/ptodata/2/iaa/PCTUS_COMB.pep:*

6: /cgn2_6/ptodata/2/iaa/backfiles1.pep:*
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US-08-465-640-2
US-08-461-333-2
US-08-446-167-2
US-08-446-167-2
US-08-446-167-2
US-08-446-681-2
US-08-446-1019-4
US-08-446-1019-4
US-08-446-106-2
US-08-456-106-2
US-08-456-108-3
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	1	-09-633-739-	-09-265-577-6	-08-456-108-	-08-456-106-	-08-453-703-	-08-145-681-	-08-909-954-	-09-196	-09-489-039A-127	-09-489-039A-1266	-09-252-991A-2496	-09-732	-09-105-537-	-09-679-279-	-08-811-682-	-09-252-991A-	00-03-637-440-0
	22	6, Appl	6, Appl	-	, Appl	-	-	-	<ol> <li>Appli</li> </ol>	12750, A	12667, A	4960	357, App	4, Appli	13, Appl	3, Appl	19611, A	0, 100th

## ALIGNMENTS

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; TOPOLOGY: linear; MOLECULE TYPE: protein US-08-724-586-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 1
US-08-724-586-2
                      Query Match
Best Local
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COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/724,586
FILING DATE: 30-SEPT-1996
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/238,445
FILING DATE: 05-MAY-1994
AFTORNEY/AGENT INFORMATION:
NAME: Player, William E.
REGISTRATION NUMBER: 31,409
REFERENCE/DOCKET NUMBER: 10505/P58185C
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence
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                                                                                                                      INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 694 amino acids
TYPE: amino acid
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: Kruzel, Marian L.
APPLICANT: Kurecki, Tomasz
APPLICANT: Gollnick, Paul D
APPLICANT: Gollnick, Paul D
APPLICANT: Doyle, Darrell J.
TITLE OF INVENTION: Cloning, Expression, and Uses of Human
TITLE OF INVENTION: Lactoferrin
NUMBER OF SEQUENCES: 8
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ADDRESSEE: Jacobson, Price, 1
STREET: 400 Seventh St. N.W.
CITY: Washington D.C.
                                                                                                                                                                                                                                 TELEPHONE: (20 TELEFAX: (202)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COUNTRY: U.S.A. ZIP: 20004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2, Application US/08724586
5. 6066469
1 Similarity
10; Conserv
                                                                                                                                                                                                                                                     (202) 638-6666
                                                                                                                                                                                                                               393-5350
                    79.0%;
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                    Score 39.5;
Pred. No. 21;
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Conservative

0; Mismatches

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Indels

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340 EVAARRARVVW 350

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US-09-421-632-2
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                                                                                                                                                                                                                                          RESULT 3
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                                                                                                                                                                      Sequence 2, Applicatio Patent No. 6455687 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                 Matches
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                                                                                                                                                                                                                                                                                                                                                                                              Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TELEFAX: (202) 393-5350
INFORMATION FOR SEQ ID NO: 2
SEQUENCE CHARACTERISTICS:
LENGTH: 694 amino acids
TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GENERAL INFORMATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NAME: Player, William 1.409
REGISTRATION NUMBER: 31.409
REFERENCE/DOCKET NUMBER: 10505/P58185C
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION 1070767666
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PALENTIN Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                  MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ADDRESSEE: Jacobson,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                              Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICATION NUMBER: US/09/421,632 FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COUNTRY:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ILE OF INVENTION: Cloning, Expression, and Uses of Human ILE OF INVENTION: Lactoferrin
                                                                Gollnick, Paul D.
Doyle, Darrell J.
TITLE OF INVENTION: Cloning, Expression,
Lactoferrin
                                NUMBER OF SEQUENCES: 8
CORRESPONDENCE ADDRESS:
                                                                                                                                                    APPLICANT: Kruzel, Marian L.
                                                                                                                                                                                                                                                                                             340 EVAARRARVVW 350
                                                                                                                                                                                                                                                                                                                                                                 10;
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                                                                                                                                                                                                                                                                                                                                                                              5 Similarity 90.9%;
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Y: U.S.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               amino acid
ADDRESSEE: Jacobson, Price, Holman & Stern STREET: 400 Seventh St. N.W.
                                                                                                                                                                                                       Application US/09932190
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         E: Jacobson, Price, Holman & Stern 400 Seventh St. N.W.
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Gollnick, Paul D.
Doyle, Darrell J.
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                                                                                                                                   Kurecki, Tomasz
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              08/724,586
                                                                                                                                                                                                                                                                                                                                                                 Score 39.5; D
Pred. No. 21;
0; Mismatches
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                                                                                      and Uses of Human
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                     APPLICATION NUMBER: US/08/655,64
FILING DATE: 30-MAY-1996
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/992,538
FILING DATE: December 17, 1992
ATTORNEY/AGENT INFORMATION:
NAME: SCOTT, WATSON T.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TELEFAX: (202) 393-
INFORMATION FOR SEQ ID NO: 2:
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APPLICATION NUMBER: US/09/932,190
EILING DATE: 17-Aug-2001
CLASSIPICATION ATA:
APPLICATION VINDER: US/09/932,190
EILING DATE: 10-Aug-2001
PRIOR APPLICATION UNMBER: US/08/724,586
APPLICATION NUMBER: US/08/724,586
EILING DATE: 30-SEPT-1996
APPLICATION NUMBER: US 08/238,445
PILING DATE: 05-MAY-1994
APPLICATION NUMBER: US/08/238,445
PILING DATE: 05-MAY-1994
ATTORNEY/AGENT INFORMATION:
REGISTRATION NUMBER: 31,409
REFERENCE/DOCKET NUMBER: 10505/P58185C
TELEPHONE: (202) 638-6666
TELEPHONE: (202) 638-6666
                                                                                                                                                                          SOFTWARE: PatentIn Release #1.0, CURRENT APPLICATION DATA:
                                                                                                                                                                                                                  COMPUTER READABLE FORM:
MEDIUM TYPE: Flopy disk
COMPUTER: IBM PC compatible
COMPUTER: IBM PC COMPATING SYSTEM: PC-DOS/MS-
                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: Teng, Christina
APPLICANT: Panella, Timothy J.
TITLE OF INVENTION: HUMAN LACTOFERRIN
NUMBER OF SEQUENCE: 5
CORRESPONDENCE ADDRESS:
ADDRESSEE: CUSHMAN, DARBY & CUSHMAN
ADDRESSEE: CUSHMAN, DARBY & CUSHMAN
                                                                                                                                                                                                                                                                                                                                              STATE:
                                                                                                                                                                                                                                                                                                                                                                               STREET:
      REGISTRATION NUMBER:
                                                                                                                                                                                                                                                                                                                    COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LENGTH: 694 amino acids
TYPE; amino acid
TOPOLOGY: linear
MOLECULE TYPE; protein
SEQUENCE DESCRIPTION: SEQ ID NO: 2:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ZIP: 20004
COMPUTER READABLE FORM:
COMPUTER TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE CHARACTERISTICS:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2, Application US/08655640
5. 5948613
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Similarity 90.9%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CITY: Washington D.C.
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1100 NEW YORK AVE. N.W., NINTH FLOOR
                                                                                                                                                                                                                                                                                                                         USA
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T.
26,581
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Pred. No. 21;
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                                                                                                                                                                                                         Version #1.25
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UENGTH: 705 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: protein
US-08-655-640-2
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US-08-655-640-4
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                                                                                                                                        TELEX: 6714627 CUSH
INFORMATION FOR SEQ ID NO: 4:
SEQUENCE CHARACTERISTICS:
LENGTH: 708 amin
                                              Query Match 79. Best Local Similarity 90. Matches 10; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Patent No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 4,
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Best Local Similarity
                                                                                                    -08-655-640-4
                                                                                                                                                                                                               GENERAL INFORMATION:
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TELEX: 6714627 CUSH
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: Teng, Christina
APPLICANT: Panella, Timothy J.
TITLE OF INVENTION: HUMAN LACTOFERRIN
NUMBER OF SEQUENCES: 5
CORRESPONDENCE ADDRESS:
                                                                                                               TOPOLOGY: 1:
                                                                                                                                                                                                                                                                                                                                                                        SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
COPERATING SYSTEM: PC-DOS/MS-DOS
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TELECOMMUNICATION INFORMATION:
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357 EVAARRARVVW 367
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                       1 EVAA-RARVVW 10
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WASHINGTON
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                                                                                                                                    amino acids
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1100 NEW YORK AVE. N.W., NINTH FLOOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                             linear
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30-MAY-1996
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                                              Score 39.5; Di
Pred. No. 22;
0; Mismatches
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Pred. No. 22;
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                                                                        DB 2; Length 708;
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                                                 Indels
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COMPUTER: IBM PC COMPAGE COMPUTER: IBM PC COMPAGE COMPAGE COMPUTER: Patentin PC-DOS/MS-DOS SOFTWARE: Patentin Release #1.0, Version #1.25 CURRENT APPLICATION NUMBER: US/08/154,019 FILING DATE: 16-NOV-1993 CLASSIFICATION: 435 PRIOR APPLICATION DATA: ASPLICATION NUMBER: US/08/461,333 FILING DATE: 05-JUN-1995 PILING DATE: 05-JUN-1995 PILING DATE: 05-JUN-1995 PRIOR APPLICATION NUMBER: US/08/077,788 FILING DATE: 15-JUN-1993 PRIOR APPLICATION NUMBER: US/08/077,788 PRIOR APPLICATION NUMBER: US/08/077,788 PRIOR APPLICATION NUMBER: US/07/895,956
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                                                                                                                                                            ; TOPOLOGY: linear ; MOLECULE TYPE: protein US-08-154-019-2
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US-08-154-019-2
                                                                              Matches
                                                                                               Query Match
Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER: US 07/895,956
FILING DATE: 15-UUN-1992
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/619,131
FILING DATE: 27-NOV-1990
PRIOR APPLICATION DATA:
APPLICATION DATA:
APPLICATION DATA:
APPLICATION UNMBER: US 07/444,745
                                                                                                                                                                                                                                                                                   TELEFAX: 415-543-5043
INFORMATION FOR SEQ ID NO: 2:
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COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STREET: Une CONTROL STATE: San Francisco STATE: California
                                                                                                                                                                                                                                          SEQUENCE CHARACTERISTICS:
LENGTH: 709 amino acids
                                                                                                                                                                                                                                                                                                                                         NAME: Liebescheutz, Joe O.
REGISTRATION NUMBER: 37,505
REFERENCE/DOCKET NUMBER: 16994-003123
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                         FILING DATE: 01-DEC-1989
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CORRESPONDENCE ADDRESS:
ADDRESSEE: Townsend and Townsend and Crew
STREET: One Market Plaza, Steuart Tower, Suite 2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: Krimpenfort, Paul J.A.
TITLE OF INVENTION: Production of Recombinant Polypeptides
TITLE OF INVENTION: by Bovine Species and Transgenic Methods
NUMBER OF SEQUENCES: 38
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT:
                                                                                                                                                                                                                                                                                                                          TELEPHONE:
355
                                                                              10;
                                       1 EVAA-RARVVW 10
                                                                                                 Similarity
EVAARRARVVW 365
                                                                                                                                                                                                                    amino acid
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                                                                           Conservative
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Heyneker, Herbert L.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Lee, Sang He
Pieper, Frank
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          E: Floppy disk
IBM PC compatible
SYSTEM: PC-DOS/MS-DOS
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                                                                                             79.0%;
90.9%;
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                                                                           Score 39.5; D
Pred. No. 22;
0; Mismatches
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RESULT 7 US-08-461-333-2

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US-08-464-167-2
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 GENERAL INFORMATION:
APPLICANT: Deboer,
APPLICANT: Strijkes
APPLICANT: Heynekes
                                                                        Sequence 2, Application US/08464167 Patent No. 6013857
                                                                                                                                                                                                                                                          Matches
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Best Local 9
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Patent No.
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INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
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                                                                                                                                                                                                                                                                                                                                              TYPE: amino acids
TYPE: amino acids
TOPOLOGY: line
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CLASSIFICATION: 800
PRIOR APPLICATION DATA:
PRIOR APPLICATION NUMBER: US 08/077,788
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICATION NUMBER: US 07/44
FILING DATE: 01-DEC-1989
ATTORNEY/AGENT INFORMATION:
NAME: Liebescheutz, Joe 0.
REGISTRATION NUMBER: 37.50.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICATION NUMBER: US 08/07/, OF FILING DATE: 15-UN-1993
PRIOR APPLICATION DATA:
PRIOR APPLICATION NUMBER: US 07/895,956
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/461,333
FILING DATE: 05-UN-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CORRESPONDENCE ADDRESS:
ADDRESSEE: Townsend and Townsend and Crew
STREET: One Market Plaza, Steuart Tower, Suite 2000
                                                                                                                                                                                                                                                                                                                                                MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TELECOMMUNICATION INFORMATION:
TELEPHONE: 415-543-9600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FILING DATE: 27-NOV-1990 PRIOR APPLICATION DATA:
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PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/619,131
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APPLICANT: Krimpenfort, Paul J.A.
TITLE OF INVENTION: Production of Recombinant Polypeptides
TITLE OF INVENTION: by Bovine Species and Transgenic Methods
NUMBER OF SEQUENCES: 38
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICATION NUMBER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COUNTRY:
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California
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Strijker, Rein
Heyneker, Herbert
Deboer, Herman A.
Strijker, Rein
Heyneker, Herbert L.
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Lee, Sang He
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Pred. No. 22;
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                                                                                                                                                                                                                             US-09-158-313-2
                                                                                                                                              Patent No. 6066725
GENERAL INFORMATION:
APPLICANT: Deboer.
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                                                                                                                                                                                                                                                                                                                                                                          Matches
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Best Local :
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COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PATENTIA Release #1.0, Vei
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/464,167
FILLING DATE: 05-JUN-1995
CLASSIFICATION 800
PRIOR APPLICATION NUMBER: US 08/077,788
APPLICATION NUMBER: US 08/077,788
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TELEFAX: 415-543-5043
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS
SEQUENCE CHARACTERISTICS
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PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07
FILING DATE: 27-NOV-1990
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STREET: San Francisco
CITY: San Francisco
STATE: California
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 0
FILING DATE: 01-DEC-1989
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FILING DATE: 15-JUN-1993
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/895,956
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CORRESPONDENCE ADDRESS:
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TITLE OF INVENTION: Production of Recombinant Polypeptides
TITLE OF INVENTION: by Bovine Species and Transgenic Methods
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NUMBER OF SEQUENCES:
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 FITLE OF INVENTION:
                                       PPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 REFERENCE/DOCKET NUMBER: 169
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NAME: Liebescheutz, Joe O. REGISTRATION NUMBER: 37,50
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LENGTH:
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106672
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Similarity 90.9%;
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Lee, Sang He
Pieper, Frank
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Platenburg, Gerald
Lee, Sang He
Lee, Sang He
Pieper, Frank
Krimpenfort, Paul J.A.
VENTION: Production of Recombinant Polypeptides
VENTION: by Bovine Species and Transgenic Methods
                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                             Strijker, Rein
Heyneker, Herbert L.
                                                                                                                                                Deboer, Herman A.
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01-DEC-1989
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Plaza, Steuart Tower, Suite 2000
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Pred. No. 22;
                                                                                                                                                                                                                                                                                                                                                                              Mismatches
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RESULT 10
US-08-476-798-2
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Patent No. 61405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
APPLICANT: Pieper, Frank
APPLICANT: Krimpenfort, Paul J.A.
APPLICANT: Krimpenfort, Paul J.A.
TITLE OF INVENTION: Production of Recombinant Polypeptides
TITLE OF INVENTION: by Bovine Species and Transgenic Methods
NUMBER OF SEQUENCES: 38
CORRESPONDENCE ADDRESS:
ADDRESSEE: Townsend and Townsend and Crew
STREET: One Market Plaza, Steuart Tower, Suite 2000
CITY: San Francisco
                                                                                                                                                                                                                                                                                       GENERAL INFORMATION:
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FILING DATE: 01-DEC-1989
ATTORNEY_AGENT INFORMATION:
NAME: Liebescheutz, Joe O.
REGISTRATION NUMBER: 37,505
REFERENCEJPOCKET NUMBER: 1699
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TELEFAX: 415-543-5043 INFORMATION FOR SEQ ID NO: 2:
                                                                                                                                                                                                                                     APPLICANT:
APPLICANT:
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LENGTH: 709 amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICATION NUMBER: US 0: FILING DATE: 27-NOV-1990 PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COMPUTER READABLE FORM.

MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
CURRENT APPLICATION DATA:
US/09/158,313
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APPLICATION NUMBER: US 07/895,956
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CLASSIFICATION:
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NUMBER OF SEQUENCES: 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Similarity 90.
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                                                                                                                                                                                                                                                                                                                           Application US/08476798
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Lee, Sang He
Pieper, Frank
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Heyneker, Herbert L.
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RESULT 11
US-08-145-681-2
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                                                                                                                                                                                                                                       GENERAL INFORMATION:
APPLICANT: Conneely,
APPLICANT: Headon, Do
APPLICANT: O'Malley,
APPLICANT: May, Grego
TITLE OF INVENTION: E
TITLE OF INVENTION: E
                                                                                                                                                                                                                                                                                                                                                        Sequent No. 55/100:
                                                                                                                                                                                                                                                                                                                                                                                               Sequence 2, Application US/08145681 Patent No. 5571691
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
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FILING DATE: 15-JUN-1992
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/619,131
FILING DATE: 27-NOV-1990
PRIOR APPLICATION DATA:
APPLICATION UNMBER: US 07/444,745
FILING DATE: 01-DEC-1989
ATTORNEY/ACENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TELEFAX: 415-543-5043
INFORMATION FOR SEQ ID NO:
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FILING DATE: 07-UUN-1995
CLASSIFICATION: 800
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/077,788
FILING DATE: 15-UUN-1993
PRIOR APPLICATION DATA:
                                                          COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                 CORRESPONDENCE ADDRESS:
ADDRESSEE: Baker & Botts, L.L.P.
STREET: 910 Louisiana St
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TOPOLOGY: linear MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE CHARACTERISTICS:
LENGTH: 709 amino acids
                                                                                                                                                                                                                          NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TELECOMMUNICATION INFORMATION:
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ZIP: 94105
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
                                                                                               COUNTRY: USA
ZIP: 77002
                                                                                                                                                    STREET: 910 Lo
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nes 10; Conserv
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                                                                                                                                    Texas
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Headon, Denis R.
O'Malley, Bert W.
May, Gregory S.
WENTION: Production of Recombinant Lactoferrin
VENTION: and Lactoferrin Polypeptides Using cDNA Sequences in
VENTION: Various Organsims
VENTEON: 14
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90.9%;
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Pred. No. 22;
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URRENT APPLICATION DATA:

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ANTI-SENSE: NO
CRIGINAL SOURCE:
ORGANISM: H. sapiens
US-08-145-681-2
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US-08-250-308-2
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Matches
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Best Local 9
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INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
TELEFAX: 7136515246
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                   CLASSIFICATION: 530
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/873,30
PILING DATE: 24-APR-1992
ATTORNEY/AGENT INFORMATION:
NAME: Adler Ph.D., Benjamin A.
REGISTRATION NUMBER: 35,423
REGISTRATION NUMBER: 35,423
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GENERAL INFORMATION APPLICANT: Connec
                                                                                                                                                                                                                                                                COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM FO-DOS/MS-DOS
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MOLECULE IN HYPOTHETICAL: NO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MOLECULE TYPE: protein HYPOTHETICAL: YES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         REGISTRATION NUMBER: 29,329
REFERENCE/DOCKET NUMBER: 19
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ATTORNEY/AGENT INFORMATION:
NAME: McGregor, Martin L
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: O'Malley, Bert W.
TITLE OF INVENTION: Production of Recombinant Human
TITLE OF INVENTION: Lactoferrin
                                                     TELECOMMUNICATION INFORMATION: 7136515587
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                          COUNTRY: USA
77010-3095
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LENGTH: 711 amino acids
TYPE: amino acid
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TELEPHONE:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICATION NUMBER:
                                                                                          REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                               APPLICATION NUMBER: US/08/250,308
                                                                                                                                                                                                                                                                                                                                                                                                                                         STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                            ADDRESSEE:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           357 EVAARRARVVW 367
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                                                                                                                                                                                                                                                                                                                                                                                                                           Houston
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Application US/08250308
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    Fulbright & Jaworski Patent Department
1301 McKinney St.

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                                                                                                                                                                               US 07/873,304
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                                                                                            D5456
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Pred. No. 2
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; MOLECULE TYPE: protein US-08-250-308-2
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TOPOLOGY: 1:
MOLECULE TYPE:
IS-08-154-019-4
                                                                                                                                                                                                                                                                                                                                                                                         APPLIANCE

APPLICATION: 435

CLASSIFICATION: 435

PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/461,333

FILING DATE: 05-JUN-1995

APPLICATION NUMBER: US 08/077,788

APPLICATION DATE: 15-JUN-1993
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Best Local Similarity
                                                                                                            TELEFAX: 415-543-504.
INFORMATION FOR SEQ ID NO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/154,019
FILING DATE: 16-NOV-1993
                                                                    SEQUENCE CHARACTERISTICS:
LENGTH: 711 amino acid
                                                                                                                                                                                                                                                                                                                                                                            FILING DATE: 15-JUN-1993
PRIOR APPLICATION NUMBER: US 07/895,956
APPLICATION NUMBER: US 07/895,956
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MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CORRESPONDENCE ADDRESS:
ADDRESSEE: Townsend and Townsend and Crew
STREET: One Market Plaza, Steuart Tower, Suite 2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: Krimpenfort, Paul J.A.
TITLE OF INVENTION: Production of Recombinant Polypeptides
TITLE OF INVENTION: by Bovine Species and Transgenic Methods
NUMBER OF SEQUENCES: 38
                                                                                                                                                           TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                               FILING DATE: 01-DEC-1989
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                      PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                          FILING DATE: 15-JUN-
PRIOR APPLICATION DATA:
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                                                                                                                                                                            NAME: Liebescheutz, Joe O.
REGISTRATION NUMBER: 37,505
REFERENCE/DOCKET NUMBER: 16994-003123
                                                                                                                                                                                                                                                                                                      APPLICATION NUMBER: US 0 FILING DATE: 27-NOV-1990
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            OPERATING SYSTEM:
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                                                                                                                                                                                                                                                                     APPLICATION NUMBER:
                                                                                                                                            TELEPHONE:
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                                                 : 711 amino acids amino acid
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                                                                                                                           : 415-543-9600
415-543-5043
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Heyneker, Herbert L.
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SYSTEM: PC-DOS/MS-DOS
PatentIn Release #1.0, Version #1.25
                                  linear
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ber, Frank
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                                                                                                                                                                                                                                                                       US 07/444,745
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Pred. No. 22;
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357 EVAARRARVVW 367

EVAA-RARVVW 10

Query Match Best Local Matches 1

10;

Conservative

Similarity

79.0%;

Score 39.5; D Pred. No..22; 0; Mismatches

DB 1; Length 711;

0,

Indels

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Gaps

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RESULT 14 US-08-461-333-4

Patent No.

, Application US/08461333 5741957

GENERAL INFORMATION:
APPLICANT: Deboer

APPLICANT:

Deboer, Herman A. Strijker, Rein Heyneker, Herbert L.

Platenburg, Lee, Sang He

Gerald

Frank

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US-08-461-333-4
Query Match
Best Local Similarity 90.9
                                                                                                                                                                                                                                                             APPLICATION NUMBER: US 07/444,745
FILING DATE: 01-DEC-1989
ATTORMEY/AGENT INFORMATION:
NAME: Liebescheutz, Joe O.
REGISTRATION NUMBER: 37,505
REFERENCE/DOCKET NUMBER: 16994-003123
TELECOMMUNICATION INFORMATION:
TELEPHONE: 415-543-9600
                                                                                                                                                                                                                                                                                                                                                                                                      APPLICATION NUMBER: US 08/077,788
FILLING DATE: 15-UN-1993
PRIOR APPLICATION DATA:
APPLICATION UNWBER: US 07/895,956
FILLING DATE: 15-UN-1992
PRIOR APPLICATION NUMBER: US 07/619,131
APPLICATION NUMBER: US 07/619,131
FILLING DATE: 27-NOV-1990
PRIOR APPLICATION NUMBER: US 07/444,745
APPLICATION NUMBER: US 07/444,745
                                                                                                                                                                                                                          TELEFAX: 415-54
                                                                                                                                                                                                    TELEFAX: 415-543-5043
VECHMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CURKENI AFFICIATION NUMBER: US/08/461,333
FILING DATE: 05-JUN-1995
CLASSIFICATION: 800
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/077,788
FILING DATE: 15-JUN-1993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STREET: One STATE: San Francisco
STATE: California
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CORRESPONDENCE ADDRESS:
ADDRESSED: Townsend and Townsend and Crew
ATREET: One Market Plaza, Steuart Tower, Suite 2000
                                                                                                                       MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: Krimpenfort, Paul J.A.
TITLE OF INVENTION: Production of Recombinant Polypeptides
TITLE OF INVENTION: by Bovine Species and Transgenic Methods
                                                                                                                                          TYPE: amino acid
TOPOLOGY: linear
                                                                                                                                                                                  LENGTH:
                                                                                                                                                                                  711 amino acids
                                     79.0%;
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                                   Score 39.5;
Pred. No. 22;
                                                       DB
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                                                    Length 711;
               Indels
             1.
             Gaps
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Search completed: September 1, 2004, 00:18:37 Job time: 7.46667 secs
                                                                                                                                                                                                                                                                                                                                                                                                            ; ORGANISM: H. sapiens US-08-453-703-2
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US-08-453-703-2
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                                                                                                                                                                                                                                                                              Query Match
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INFORMATION FOR SEQ ID NO: 2
SEQUENCE CHARACTERISTICS:
LENGTH: 711 amino acids
TYPE: amino acid
TOPOLOGY: linear
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FILING DATE: Concurrently herewith
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/145,681
FILING DATE: October 28, 1993
ATTORNEY/AGENT INFORMATION:
AMAE: Albert P. Halluin
DECISIONATION NUMBER: Albert NUMBER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 2, Application US/08453703
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MOLECULE TYPE: pro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TELEPHONE: 415-854-3660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: Patentin Release #1.0 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ZIP: 10036
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ANTI-SENSE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CORRESPONDENCE ADDRESS:
ADDRESSEE: Pennie & Edmonds
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TITLE OF INVENTION: Produc
TITLE OF INVENTION: and La
TITLE OF INVENTION: Variou
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NAME: Albert P. Halluin
REGISTRATION NUMBER: 25,227
REFERENCE/DOCKET NUMBER: 8206-024
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STREET:
                                                                                                                                         357 EVAARRARVVW 367
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                                                                                                                                                                                                                                                                           10;
                                                                                                                                                                                                  1 EVAA-RARVVW 10
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New York
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Headon, Denis R.
O'Malley, Bert W.
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                                                                                                                                                                                                                                                                                                       79.0%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Release #1.0,
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                                                                                                                                                                                                                                                                                                       Score 39.5;
Pred. No. 2
                                                                                                                                                                                                                                                                       Mismatches
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Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Minimum DB seq length: 0
Maximum DB seq length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 OM protein - protein search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Scoring table:
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Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-09-508-095-8
                September 1, 2004, 00:15:50; Search time 22.8 Seconds (without alignments)
137.988 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1297172 seqs, 314612898 residues
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/ Cgn2_6/ptodata/2/pubpaa/US07_PUBCOMB.pep:*
/ Cgn2_6/ptodata/2/pubpaa/PCT_NEW_PUB.pep:*
/ Cgn2_6/ptodata/2/pubpaa/US06_NEW_PUB.pep:*
/ Cgn2_6/ptodata/2/pubpaa/US06_NEW_PUB.pep:*
/ Cgn2_6/ptodata/2/pubpaa/US06_PUBCOMB.pep:*
/ Cgn2_6/ptodata/2/pubpaa/US07_NEW_PUB.pep:*
/ Cgn2_6/ptodata/2/pubpaa/US08_PUBCOMB.pep:*
/ Cgn2_6/ptodata/2/pubpaa/US08_PUBCOMB.pep:*
/ Cgn2_6/ptodata/2/pubpaa/US08_PUBCOMB.pep:*
/ Cgn2_6/ptodata/2/pubpaa/US08_PUBCOMB.pep:*
/ Cgn2_6/ptodata/2/pubpaa/US08_PUBCOMB.pep:*
/ Cgn2_6/ptodata/2/pubpaa/US09_PUBCOMB.pep:*
/ Cgn2_6/ptodata/2/pubpaa/US09_PUBCOMB.pep:*
/ Cgn2_6/ptodata/2/pubpaa/US09_PUBCOMB.pep:*
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/ Cgn2_6/ptodata/2/pubpaa/US108_PUBCOMB.pep:*
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Copyright (c) 1993 - 2004 Compugen Ltd.
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result

15	14	13	12	11	10	ø	œ	7	a	v	4.	ω	N	1	No.
35	ω S	38	9	39.5	9	9	9	9	9	9	9	39.5	9	9	Score
70.0	70.0	76.0	79.0	79.0	79.0	79.0	79.0	79.0	79.0	79.0	79.0	79.0	79.0	79.0	Match
254	153	110	711	711	711	711	711	711	709	694	690	690	690	359	Length
14		16	9 1	15	15	15	14	14	14	13	16	14	14	14	BB
US-10-156-761-10952	US-10-437-963-126957	US-10-437-963-169771	US-10-408-765A-2000	US-10-440-464-69	US-10-341-434-218	US-10-341-434-202	US-10-170-221-4	US-10-169-297-9	US-10-170-221-2	US-10-023-096-2	US-10-639-835-4	US-10-077-381-4	US-10-076-816-4	US-10-169-297-49	ID
Sequence 10952, A	(U	Sequence 169771,	Sequence 2000, Ap	Sequence 69, Appl	Sequence 218, App	Sequence 202, App	(D	Sequence 9, Appli	22	2	4	4.	equence 4,	Sequence 49, Appl	Description

RESULT 2 US-10-76-816-4 ; Sequence 4, Application US/10076816 ; Publication No. US20030056244A1

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45	44	43	42	41	40	39	38	37	36	ა 5	34	33	32	3	30	29	28	27	26	25	24	23	22	21	20	19	18	17
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-10-425-114	-10-156-761-1158	-10-437-963-1736	-10-156-761-1202	09-738-626-593	-10-437-963-11759	-10-424-599-28065	0-424-599-21	-10-437-963-10615	-10-437-963-10615	-10-389-566-93	-10-424-599-18	-10-424-599-25080	-10-314-657-4	-10-324-967-3	-10-437-963-1139	-10-437-963-11398	-10-369-493-163	-10-369-493-1594	-10-369-493-1557	-10-156-761-794	-10-369-493-2	-10-424-599-1543	-10-425-114-5	-10-282-122A-620	-09-757-781-6	9-862-179A-	S-10-369-493-1054	0-156-761-
quence 6	equence 1	equence 1	equence 12	quence 593	equence 11	equence 28	quence 21	equence 1	equence 106	equence 93	equence 185	equence 25	equence 46	equence 3	equence 11	equence 113	equence 163	equence 159	equence 155	equence 794	equence 23	equence 154	equence 547	equence 620	quence 62,	quence 1, A	ence 105	Sequence 1326

## ALIGNMENTS

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GENERAL INFORMATION:

GENERAL INFORMATION:

APPLICANT: Murata, Maski

APPLICANT: Murata, Maski

APPLICANT: Enjoji, Takashi

APPLICANT: Enjoji, Takashi

INFORMATION: Preventives and Remedies for Chronic

FILE OF INVENTION: Hepatitis

FILE REFERENCE: 3435.1000-000

CURRENT APPLICATION NUMBER: US/10/169,297

CURRENT FILING DATE: 2002-10-31

PRIOR APPLICATION NUMBER: PCT/JP00/09393

PRIOR APPLICATION NUMBER: PCT/JP00/09393

PRIOR FILING DATE: 2000-12-28

PRIOR APPLICATION NUMBER: UP 11/374087

PRIOR FILING DATE: 1999-12-28

NUMBER OF 580 ID NOS: 50

SEQ ID NO 49

LENGTH: 359

LENGTH: 359

TYPE: PRT

ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 1
US-10-169-297-49
US-10-169-297
; Sequence 49, Application US/10169297
; Publication No. US20030171276A1
; Publication No. US20030171276A1
  밁
                                                                                                                                                                     US-10-169-297-49
                                                                          Query Match
Best Local Similarity
Matches 10; Conserv
111 EVAARRARVVW 121
                                      μ
                               EVAA-RARVVW 10
                                                                                 Conservative
                                                                                                   79.0%;
                                                                               Score 39.5; D
Pred. No. 36;
0; Mismatches
                                                                                                                          DB 14;
                                                                               0
                                                                                                                     Length 359;
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                                                                            Gaps
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RESULT 4
US-10-639-835-4
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; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-077-381-4
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                                                                                                                                                                                                                                                                                                                                                            PRIOR APPLICATION NUMBER: US 60/269,199
PRIOR FILING DATE: 2001-02-14
PRIOR APPLICATION NUMBER: US 09/847,232
PRIOR FILING DATE: 2001-05-02
PRIOR PPLICATION NUMBER: US 60/266,929
PRIOR PILING DATE: 2001-02-06
PRIOR PILING DATE: 2001-02-06
PRIOR APPLICATION NUMBER: US 60/201,182
PRIOR PILING DATE: 2000-05-02
NUMBER OF SEQ ID NOS: 33
SOFTWARE: FastSEQ for Windows Version 4.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GENERAL INFORMATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Matches
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                                                                                                                                                                                                               Query Match
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: Rodřiguez, Raymond
APPLICANT: Hagie, Frank E.
TITLE OF INVENTION: Expression of Human Milk Proteins:
TITLE OF INVENTION: Transgenic Plants
TITLE OF INVENTION: Transgenic Plants
TILE REFERENCE: 50665-8022.US00
CURRENT EDIJICATION NUMBER: US/10/077,381
CURRENT FILING DATE: 2002-02-14
CURRENT FILING DATE: 2002-02-14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRIOR APPLICATION NUMBER: US 60/269,188
PRIOR FILING DATE: 2001-02-14
PRIOR APPLICATION NUMBER: US 09/847,232
PRIOR FILING DATE: 2001-05-02
PRIOR APPLICATION NUMBER: US 60/266,929
PRIOR APPLICATION NUMBER: US 60/201,182
PRIOR APPLICATION NUMBER: US 60/201,182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: Hagie, Frank E.
TITLE OF INVENTION: Reed Additive Compositions and Methods
FILE REFERENCE: 50665-6021.US00
CURRENT APPLICATION NUMBER: US/10/076,816
CURRENT FILING DATE: 2002-02-14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NUMBER OF SEQ ID NOS: 60
SOFTWARE: FastSEQ for Windows Version 4.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: Huang, Ning APPLICANT: Rodriguez,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRIOR FILING DATE: 2000-05-02
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LENGTH: 690
TYPE: PRT
ORGANISM: Homo sapiens
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APPLICANT: Hagie, Frank E.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MPPLICANT: Huang, Ning
                                                                                                                                                                                          Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Local
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Similarity 90.9%;
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                                                                                    EVAARRARVVW 346
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90.9%;
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Pred. No. 67;
O; Mismatches
                                                                                                                                                                        Score 39.5; D; Pred. No. 67; O; Mismatches
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RESULT 5
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PRIOR FILING DATE: 2002-02-14
PRIOR APPLICATION NUMBER: US 60/269,199
PRIOR FILING DATE: 2001-02-14
PRIOR APPLICATION NUMBER: US 09/847,232
PRIOR FILING DATE: 2001-05-02
PRIOR APPLICATION NUMBER: US 60/266,929
PRIOR APPLICATION NUMBER: US 60/266,929
PRIOR APPLICATION NUMBER: US 60/201,182
PRIOR APPLICATION NUMBER: US 60/201,182
PRIOR FILING DATE: 2000-05-02
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SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 2, Application US/10023096 Publication No. US20020160941A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local 9
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Publication No. US20040111766A1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: Rodriguez, Raymond
APPLICANT: Hagie, Frank E.
TITLE OF INVENTION: Expression of Human Milk Proteins in
TITLE OF INVENTION: Transgenic Plants
FILE REFERENCE: 50665-8022.US01
CURRENT APPLICATION NUMBER: US/10/639,835
CURRENT FILING DATE: 2003-08-12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GENERAL INFORMATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TYPE: PRT ORGANISM: Homo sapiens
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US/08/724,586
FILING DATE: 30-SEPT-1996
APPLICATION NUMBER: US 08/238,445
FILING DATE: 05-MAX-1994
ATTORNEY/DAENT INFORMATION:
NAME: Player, William E.
                                                                                                                                                                                                                 SOFTWARE: PatentIn Release #1.0, Version #1.25 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                 COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: PATENTIA Release #1.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: Kurecki, Tomasz
APPLICANT: Golinick, Paul D.
APPLICANT: Doyle, Darrell J.
TITLE OF INVENTION: Cloning, Expression, and Uses of Human
TITLE OF INVENTION: Lactoferrin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ENGTH: 690
                                                                                                                                                                                                                                                                                                                                                                                                                                                        NUMBER OF SEQUENCES: 8
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                          STREET:
CITY: 1
                                                                                                                                                                        APPLICATION NUMBER: FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                      COUNTRY:
                                                                                                                                                      CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                   ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   336 EVAARRARVVW 346
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Similarity 90.9%;
                                                                                                                                                                                                                                                                                                                                                                                      SSEE: Jacobson, Price, Holman & Stern
P: 400 Seventh St. N.W.
Washington D.C.
                                                                                                                                                                                                                                                                                                                                                                        U.S.A.
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                                                                                                                                                                                               US/10/023,096
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Pred. No. 67;
0; Mismatches
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Matches

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Gaps

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RESULT 6
US-10-170-221-2
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TELEFAX: (202) 393-3331
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
COA amino acid
     INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
LENGTH: 709 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LENGTH: 694 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 REFERENCE/DOCKET NUMBER: 10
TELECOMMUNICATION INFORMATION:
TELEPHONE: (202) 638-6666
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SLECOMMU...
TELEPHONE: (202)
TEAX: (202)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Local
                                                                                                                                                                   APPLICATION NUMBER: US 07/895,956
FILING DATE: 15-UUN-1992
APPLICATION NUMBER: US 07/619,131
FILING DATE: 27-NOV-1990
APPLICATION NUMBER: US 07/444,745
FILING DATE: 01-DEC-1989
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                               PRIOR APPLICATION DATA:
APPLICATION NUMBER: US/08/476,798
FILING DATE: 07-UNN-1995
APPLICATION NUMBER: US 08/077,788
FILING DATE: 15-UNN-1993
                                                                                                                                                                                                                                                                                                                                                                                                                                              COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC COMPATIBLE

CORRATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: Patentin Release #1.0,

CURRENT APPLICATION DATA:
                                                             REFERENCE/DOCKET NUMBER: 16994-003125
TELECOMMUNICATION INFORMATION:
TELEPHONE: 415-543-5600
TELEFAX: 415-543-5043
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CORRESPONDENCE ADDRESS:
ADDRESSEE: Townsend and Townsend and Crew
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: Deboer, Herman A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TITLE OF
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10; Conservative
                                                                                                                                                                                                                                                                                                                                                                                          APPLICATION NUMBER: US/10/170,221
FILING DATE: 11-Jun-2002
CLASSIFICATION: Unknown>
                                                                                                                                   NAME: Liebescheutz, Joe O. REGISTRATION NUMBER: 37,505
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CITY: San Francisco
STATE: California
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EVAA-RARVVW 10
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Strijker, Rein
Heyneker, Herbert L.
Platenburg, Gerald
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Lee, Sang He
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) 393-5350
NO: 2:
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Pred. No. 68
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GENERAL LANK GENERAL AND GENERAL CANT : APPLICANT: Tohdoh, Naoki

APPLICANT: Murata, Masashi

APPLICANT: Enjoji, Takashi

ITILE OF INVENTION: Preventives and Remedies for Chronic

TITLE OF INVENTION: Hepatitis

FILE REFERENCE: 3435.0000-000

CURRENT APPLICATION UNMBER: US/10/169,297

CURRENT FILING DATE: 2002-10-31

PRIOR APPLICATION UNMBER: PCT/JP00/09393

PRIOR APPLICATION UNMBER: DT 11/374087

PRIOR APPLICATION UNMBER: JP 11/374087

PRIOR FILING DATE: 1999-12-28

NUMBER OF SEQ ID NOS: 50

SOFTWARE: FastSEQ for Windows Version 4.0

SEQ ID NO 9

LENGTH: 711

TYPE: PRT

ORGANISM: Homo sapiens

US-10-169-297-9
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US-10-170-221-4
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Publication No. US20030192068A1
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Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                  GENERAL INFORMATION:
APPLICANT: Deboer, Herman A.
                                                                                                                                                      Pieper, Frank
Pieper, Frank
Krimpenfort, Paul J.A.
Krimpenfort, Paul J.A.
TITLE OF INVENTION: Production of Recombinant Polypeptides
by Bovine Species and Transgenic Methods
ZIP: 94105
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                             CORRESPONDENCE ADDRESS:
ADDRESSEE: Townsend and Townsend and Crew
STREET: One Market Plaza, Steuart Tower, Suite 2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  357 EVAARRARVVW 367
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                                                         CITY: San Francisco
STATE: California
COUNTRY: USA
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Heyneker, Herbert l
Platenburg, Gerald
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Pred. No. 69;
0; Mismatches
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Pred. No. 69;
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MOLECULE TYPE: protein
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SEQUENCE DESCRIPTION: SEQ ID NO:
US-10-170-221-4
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US-10-341-434-202
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                                                                                                                                                                         ; TYPE: PRT ; ORGANISM: Homo sapiens US-10-341-434-202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRIOR APPLICATION NUMBER: US/10/170,221
FILING DATE: 11-Jun-2002
CLASSIFICATION NUMBER: US/08/476,798
PRIOR APPLICATION NUMBER: US/08/476,798
FILING DATE: 07-JUN-1995
APPLICATION NUMBER: US 08/077,788
FILING DATE: 15-JUN-1993
APPLICATION NUMBER: US 07/895,956
FILING DATE: 15-JUN-1993
APPLICATION NUMBER: US 07/619,131
FILING DATE: 15-JUN-1990
APPLICATION NUMBER: US 07/619,131
FILING DATE: 01-DEC-1989
ATTORNEY/AGENT INFORMATION:
NAME: Libescheutz, Joe O.
REGISTRATION NUMBER: 37,505
REFERENCE/DOCKET NUMBER: 37,505
REFERENCE/DOCKET NUMBER: 16994-003125
TELEGOMMUNICATION INFORMATION:
TELEGEONE: 415-543-5043
INFORMATION FOR SEQ ID NO: 4:
CREATION FOR SEQ ID NO: 4:
                                                                                                                                                                                                                SOFTWARE: PatentIn version 3.1
SEQ ID NO 202
LENGTH: 711
TYPE: PRT
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Best Local Similarity 90.0
Matches 10; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 202, Application US/10341434 Publication No. US20030215835A1
                                                                                        Matches
                                                                                                          Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                  APPLICANT: OxiGene Technologies
TITLE OF INVENTION: Differentially Regulated Prostate Cancer Genes
FILE REFERENCE: 9U 204 205 R1
CURRENT APPLICATION NUMBER: US/10/341,434
CURRENT FILING DATE: 2003-07-18
PRIOR APPLICATION NUMBER: US 60/348,164
PRIOR FILING DATE: 2002-01-15
PRIOR APPLICATION NUMBER: US 60/348,119
PRIOR PILING DATE: 2002-01-15
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                                             1 EVAA-RARVVW 10
                                                                                        10; Conservative
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      EVAARRARVVW 367
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                                                                                                          79.0%;
                                                                                      0; Mismatches
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                                                                                                          Score 39.5;
Pred. No. 69;
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Pred. No. 69;
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; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-440-464-69
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US-10-341-434-218
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Best Local S
Matches 10
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APPLICANT: Origene Technologies
TITLE OF INVENTION: Differentially Regulated Prostate Cancer Genes
TITLE OF INVENTION: Differentially Regulated Prostate Cancer Genes
FILE REFERENCE: 9U 204 205 R1
CURRENT FILING DATE: 2003-07-18
PRIOR APPLICATION NUMBER: US 60/348,164
PRIOR APPLICATION NUMBER: US 60/348,119
PRIOR FILING DATE: 2002-01-15
PRIOR PRIOR PRIOR DATE: 2002-01-15
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SEQ ID NO 218
LENGTH: 711
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Publication No. US20030215835A1
                                                                                                                                                                                                                                      SOFTWARE: PatentIn Ver. 2.1
SEQ ID NO 69
LENGTH: 711
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                  TITLE OF INVENTION: NOVEL BIOMARKERS OF TYROSINE KINASE INHIBITOR EXPOSURE TITLE OF INVENTION: AND ACTIVITY IN MAMMALS FILE REFERENCE: 038602/L592
CURRENT APPLICATION NUMBER: US/10/440,464
CURRENT FILING DATE: 2003-05-19
PRIOR APPLICATION NUMBER: 60/380,872
PRIOR FILING DATE: 2003-05-17
PRIOR FILING DATE: 2003-05-17
PRIOR FILING DATE: 2003-02-24
PRIOR APPLICATION NUMBER: 60/448,922
PRIOR FILING DATE: 2003-02-24
PRIOR APPLICATION NUMBER: 60/448,874
PRIOR APPLICATION NUMBER: 60/448,874
PRIOR APPLICATION NUMBER: 60/448,874
PRIOR APPLICATION STEEL 2003-02-24
PRIOR FILING DATE: 2003-02-24
PRIOR FILING DATE: 2003-02-24
PRIOR FILING DATE: 2003-02-24
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APPLICANT:
APPLICANT:
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357 EVAARRARVVW 367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  357 EVAARRARVVW 367
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                                       1 EVAA-RARVVW 10
                                                                                                          Similarity
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MANNING, WILLIAM
WALTER, SARAH
CHERRINGTON, JULIE
SCHILLING, JIM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            O'FARRELL, ANNE-MARIE
MORIMOTO, ALYSSA
                                                                                       Conservative
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                                                                                                          79.0%;
                                                                                     Score 39.5; D
Pred. No. 69;
0; Mismatches
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Pred. No. 69;
                                                                                                                                   DB 15;
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                                                                                                                              Length 711;
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                                                                                         Gaps
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RESULT 14
US-10-437-963-126957
; Sequence 126957, Application US/10437963
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US-10-437-963-169771
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                                                                                                                                                                                                                                     ; OTHER INFORMATION: Clone ID: PAT_MRT4530_68159C.1.pep
US-10-437-963-169771
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US-10-408-765A-2000
                                                                                                                                                                 Query Match
Best Local S
Matches 7
                                                                                                                                                                                                                                                                                                                          CURRENT APPLICATION NUMBER: US/10/437,963
CURRENT FILING DATE: 2003-05-14
NUMBER OF SEQ ID NOS: 204966
SEQ ID NO 169771
LENGTH: 110
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: WATNOCK, DALE E.

TITLE OF INVENTION: TARGETS FOR THERAPEUTIC INTERVENTION
TITLE OF INVENTION: IDENTIFIED IN THE MITOCHONDRIAL PROTEOME
FILE REFERENCE: 660088.465
CURRENT FILLIG DATE: 2003-04-04
RUMBER OF SEQ ID NOS: 3077
SOFTWARE: FastSEQ for Windows Version 4.0
LENGTH: 711

LENGTH: 711
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Publication No. US20040101874A1
                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: Li, Ping
TITLE OF INVENTION: Rice Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement
FILE REFERENCE: 388-21(53221)B
FILE REFERENCE: 388-21(53221)B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: La Rosa, Thomas J. APPLICANT: Kovalic, David K. APPLICANT: Zhou, Yihua
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                                                                                                                                                                                                                                                                         ORGANISM: Oryza sativa FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                               TYPE: PRT
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Similarity 90.9%;
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Tao. Yongwei
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Wu, Wei
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Pred. No. 6
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APPLICANT: ISHIKAWA, JUN
APPLICANT: HORIKAWA, HIROSHI
APPLICANT: SHIBA, TADAYOSHI
APPLICANT: SHIBA, TADAYOSHI
APPLICANT: SHIBA, TADAYOSHI
APPLICANT: HATTORI, MASAHIRA
TITLE OF INVENTION: NOVEL POLYNUCLEOTIDES
FILE REFERENCE: 249-262
CURRENT FILING DATE: 2002-05-29
PRIOR APPLICATION NUMBER: US/10/156,761
CURRENT FILING DATE: 2001-05-29
PRIOR PILING DATE: 2001-05-30
PRIOR PILING DATE: 2001-05-30
PRIOR PILING DATE: 2001-05-30
PRIOR PILING DATE: 2001-08-97
PRIOR PILING DATE: 201-08-97
PRIOR PILING D
                                                                                                                                                                                                                                                                                               ; ORGANISM: Streptomyces avermitilis US-10-156-761-10952
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TYPE: PRT
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APPLICANT: OMURA, SATOSHI
APPLICANT: IKEDA, HARUO
APPLICANT: ISHIKAWA, JUN
                                                                                                                                                     Matches
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Best Local
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APPLICANT: Kovalic, David K.
APPLICANT: Zhou, Yihua
APPLICANT: Cao, Yongwei
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LOCATION: (1).. (153)
OTHER INFORMATION: unsure at all Xaa locations
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A;Residues: 3-711 cPOW>
A;Cross-references: EMBL:X52941; NID:g34411; PIDN:CAA37116.1; PID:g34412
A;Molecule: Experession of Cloned human lactoferrin in baby-hamster kidney cells.
A;Title: Expression of Cloned human lactoferrin in baby-hamster kidney cells.
A;Title: Expression of Cloned human lactoferrin in baby-hamster kidney cells.
A;Title: Expression of Cloned human lactoferrin in baby-hamster kidney cells.
A;Title: Expression of Cloned human lactoferrin in baby-hamster kidney cells.
A;Accession: S15853; MUID:g1264786; PMID:2049066
A;Accession: S15853; MUID:g1264786; PMID:2049066
A;Accession: S15853
A;Catas: nucleic acid sequence not shown; not compared with conceptual trans
A;Molecule type: mRNA
A;Residues: 20-31 < ST1>
A:Noncession: S20841
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A;Residues: 1-148,'T',150-422,'C',424-711 <REY>
A;Residues: 1-148,'T',150-422,'C',424-711 <REY>
A;Cross-references: EMBL:X53961; NID:g34415; PIDN:CAA37914.1; PID:g34416
R;Teng, C.T.; Liu, Y.; Yang, N.; Walmer, D.; Panella, T.

MOI. Endocrinol. 6, 1969-1981, 1992
A;Title: Differential molecular mechanism of the estrogen action that regulates lactofer
A;Reference number: A45401; MUID:93125571; PMID:1480183
A;Accession: A45401
A;Molecule type: DNA
A;Residues: 1-15 <TEN>
A;Residues: 1-15 <TEN>
A;Residues: 1-15 <TEN>
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A; Title: Nucleotide sequence of human lactoferrin cDNA. A; Reference number: S10324; MUID:90326549; PMID:2374734
A; Accession: S10324
A;Accession: S20841
A;Molecule type: protein
A;Residues: 20-28,'X',30-31 <ST2>
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A;Reference number: G06820
A;Accession: G01394
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 1-711 <CHO>
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N;Alternate names: lactoferrin
C;Species: Homo sapiens (man)
C;Date: 31-Mar-1992 #sequence revision 21-Nov-1997 #text_change 08-Dec-2000
C;Accession: G01394; S11228; A45401; S10324; S15853; S20841; S07160; A61169; A31000;
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Result

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A; Molecule type: mRNA
A; Residues: 436-487, 'A', 489-711 < RAD>
A; Residues: 436-487, 'A', 489-711 < RAD>
A; Cross-references: EMBL:M18642; NID:g186815; PIDN:AAA866655.1; PID:g38
R; Panella, T.T.; Liu, Y.; Huang, A.T.; Teng, C.T.
Cancer Res. S1, 3037-3043, 1991
A; Title: Polymorphism and altered methylation of the lactoferrin gene
A; Reference number: A61169; MUID:91235214; PMID:1674448
A; Accession: A61169
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A;Molecule type: protein
A;Residues: 20-140,142-169,171-203,'L',205,'K',207-208,'K',210-385,'Q',387-391,'W',393-
A;Residues: 10-140,142-169,171-203,'L',205,'K',207-208,'K',210-385,'Q',387-391,'W',393-
A;Rote: this is the final paper in a series
A;Houen, G; Hoegdall, E.V.; Barkholt, V.; Norskov, L.
Bur. J. Hoeghall, E.V.; Barkholt, V.; Norskov, L.
Bur. J. Biochem. 241, 303-308, 1996
Bur. J. Biochem. 241, 303-308, 1996
A;Title: Lactoferrin: similarity to diamine oxidase and purification by aminohexyl affi
A;Title: Lactoferrin: similarity to diamine oxidase and purification by aminohexyl affi
A;Reference number: S74119; MUID:97054624; PMID:88989821
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A;Title: Human lactotransferrin. amino acid sequence and structural comparisons A;Reference number: A31000; MUID:85076667; PMID:6510420
A;Accession: A31000
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Blood 70, 989-993, 1937.
A;Title: Isolation of lactoferrin cDNA from a human myeloid library and expression
A;Reference number: S07160; MUID:88001031; PMID:3477300
A;Status: preliminary
A;Molecule type: DNA
A;Molecule type: DNA
A;Residues: 1-175 <PED>
A;Cross-references: EMBL:X67865; NID:g472886; PIDN:CAA48064.1; PID:g439646
A;Cross-references: EMBL:X67865; NID:g472886; PIDN:CAA48064.1; PID:g439646
R;Alonso, J.C.; Luder, G.; Stiege, A.C.; Chai, S.; Weise, F.; Trautner, T.A.
Gene 204, 201-212, 1997
                                                                                                                                                                                                                                                                                             hypothetical protein 41 - phage SPP1
C;Species: phage SPP1
C;Date: 27-Jan-1995 #sequence_revision 27-Jan-1995 #text_change
C;Accession: S438L5; T42345; S41189
R;Pedre, X.; Weise, F.; Chai, S.; Lueder, G.; Alonso, J.C.
J. Mol. Biol. 236, 1324-1340, 1994
A;Title: Analysis of cis and trans acting elements required for A;Reference number: S43798; MUID:94172631; PMID:8126723
A;Accession: S43815
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A; Residues: 3-701, 'SWKPVN' < PAN>
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A;Residues: 'G',23-24,'R',26-27,'XX',30-32 <HOU:
A;Experimental source: neutrophil granulocytes
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, Superfamily: transferrin; transferrin repeat homology
, Superfamily: transferrin; iron binding; milk
, Keywords: duplication; glycoprotein; iron binding; milk
, L-19/Domain: signal sequence #status predicted <SIG>
, 21-19/Domain: signal sequence #status experimental <MAT>
, 21-356/Domain: transferrin repeat homology <TRHI
, 21-356/Do
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,29-65,39-56,135-218,177-193,190-201,251-265,503-697,595-609/Disulfide bonds: #status
,157,499/Binding site: carbohydrate (Asn) (covalent) #status experimental
,368-400,378-391,425-706,447-669,479-554,513-527,524-537,647-652/Disulfide bonds: #status
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RESULT 3
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                                                                                                                                                                                                       lactase (EC 3.2.1.108) / glycosylceramidase (EC 3.2.1.62) (clone B N;Alternate names: lactase / phlorizin hydrolase (Species: Oryctolagus cuniculus (domestic rabbit) (c;Date: 13.7dan-1995 #sequence_revision 03-Nov-1995 #text_change 17 C;Accession: S43719 #sequence_revision 03-Nov-1995 #text_change 17 R;Villa, M.; Brunschwiler, D.; Gaechter, T.; Boll, W.; Semenza, G. FEBS Lett. 336, 70-74, 1993 #sequence_revision of multiple lactase-phlorizin A;Reference number: S43719; MUID:94085594; PMID:8262219
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S43719
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R;annoymous, Genoscope
submitted to the RMBL Data Library, July 1999
A;Description: Pyrococcus abyssi genome sequence:
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                                                                                                    A;Molecule type: mRNA
A;Residues: 1-1918 «VIL»
A;Cross-references: EMBL:Z27166
C;Keywords: carbohydrate digest:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A;Molecule type: DNA
A;Residues: 1-912 <KAW>
A;Cross-references: GB:AJ248285; GB:AL096836; NID:g5458067;
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A;Accession: B75127
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C;Date: 20-Aug-1999 #sequence_revision
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A;Accession: S43719
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60.0%;
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Pred. No. 13;
                                     3; Mismatches
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Pred. No.
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A;Molecule type: mRNA
A;Molecule type: mRNA
A;Residues: 1-1926 <mAN>
A;Conserveferences: EMBL:X07995; NID:g1616; PIDN:CAA30802.1; PID:g1617
A;Conserveferences: EMBL:X07995; NID:g1616; PIDN:CAA30802.1; PID:g1617
A;Note: the authors translated the codon GCC for residue 1551 as Gly and CCA for residue
A;Note: part of this sequence, including the amino end of the mature protein, was confid
C;Keywords: carbohydrate digestion; glycosidase; hydrolase; intestine; transmembrane pro
C;Keywords: carbohydrate digestion; glycosidase; bydrolase; intestine; transmembrane pro
F;10-866/Domain: signal sequence #status predicted SIG>
F;00-866/Domain: propeptide #status predicted F;00-866/Product: beta-glycosidase complex #status experimental <mathree co
                                                                                                                                                                                                          RESULT 7
                                                                             beta-glycosidase complex precursor
N;Contains: glycosylceramidase (EC
C;Species: Homo sapiens (man)
C;Date: 07-Sep-1990 #sequence_revis
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              R.Villa, M.; Brunschwiler, D.; Gaechter, T.; Boll, W.; Semenza, G.; Mantei, N. FEBS Lett. 336, 70-74, 1993
A;Title: Region-specific expression of multiple lactase-phlorizin hydrolase genes A;Reference number: S43719; MUID:94085594; PMID:8262219
A;Accession: S43720
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A; Residues: 1-1920 <VIL>
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,Accession: S01168
,Mantei, N.; Villa, M.; Enzler,
MBO J. 7, 2705-2713, 1988
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mes 6; Conserv
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Pred. No. 71;
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3.2.1.62); lactase
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se; hydrolase; intestine
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C;Genetics:
A;Gene: APE2036
C;Superfamily: A
A; Gene: CC2085
C; Superfamily:
                                                                                                                                                     A; Reference number: A87249; A; Accession: D87507
                                                                                                                                                                                          R;Nierman, W.C.; Feldblyum, T.V.; Paulsen, I.T.; Nelson, K.E.; Eisen, J.; Heidelber, B.; Laub, M.T.; DeBoy, R.T.; Dodson, R.J.; Durkin, A.S.; Gwinn, M.L.; Haft, D.H.; n, J.; Ermolaeva, M.; White, O.; Salzberg, S.L.; Shapiro, L.; Venter, J.C.; Fraser, Proc. Natl. Acad. Sci. U.S.A. 98, 4136-4141, 2001
A;Title: Complete Genome Sequence of Caulobacter crescentus.
                                                                                                                                                                                                                                                                                                          glutathione S-transferase [imported] - Caulobacter crescentus C;Species: Caulobacter crescentus C;Date: 20-Apr-2001 #sequence_revision 20-Apr-2001 #text_change 02-Aug-2002 C;Accession: D87507
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A;NIGUGE TYPE: DNA
A;Molecule type: DNA
A;Residues: 1-108 <KAW>
A;Cross-references: DDBJ:AP000063; NID:g5105654; PIDN:BAA81046.1;
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A;Roccession: S01168
A;Molecule type: mRNA
A;Residues: 1-1927 <AMAN>
A;Residues: 1-1927 <AMAN>
A;Residues: 1-1927 <AMAN>
A;Cross-references: EMBL:X07994; NID:g34399; PIDN:CAA30801.1; PID:g3-A;Cross-references: EMBL:X07994; NID:g34399; PIDN:CAA30801.1; PID:g3-C;Keywords: carbohydrate digestion; glycosidase; hydrolase; intestine F;1-19/Domain: signal sequence #status predicted <FRO>
F;20-866/Domain: propeptide #status predicted <FRO>
F;20-866/Domain: propeptide #status predicted <FRO>
F;867-1927/Product: beta-glycosidase complex #status predicted <MAT>
F;1883-1901/Domain: transmembrane #status predicted <TMM>
                                              C; Genetics:
                                                                                        A; Molecule type: DNA
A; Residues: 1-210 <S
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A;Reference number: A72450;
A;Accession: F72507
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DNA Res. 6, 83-101, 1999
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                                                                 A; Cross-references:
                                                                                                                              A; Status: preliminary
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Takamiya, M.; Masuda, S.; Funahashi,
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hypothetical protein b0838
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                                                            :AE005673; NID:g13423566; PIDN:AAK24056.1; GSPDB:GN00148
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50; MUID:99310339; PMID:10382966
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i, T.; Tan
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T.; Kudoh,
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h, Y.; Yamazaki,
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RESULT 12
S72753
hypothetical
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R;Wood, D.W.; Setubal, J.C.; Kaul, R.; Monks, D.; Chen, L.; Wood, G.E.; Chen, Y.; Woo, erage, G.; Gillet, W.; Grant, C.; Guenthmer, D.; Kutyavin, T.; Levy, R.; Li, M.; McClel; Karp, P.; Romero, P.; Zhang, S.
Science 294, 2317-2323, 2001
A;Authors: Yoo, H.; Tao, Y.; Biddle, P.; Jung, M.; Krespan, W.; Perry, M.; Gordon-Kamm,
                                                                                                                                                                                                                                                                                                                                                                                                     R;Goodner, B.; Hinkle, G.; Gattung, S.; Miller, N.; Blanchard, M. A.; Liu, F.; Wollam, C.; Allinger, M.; Doughty, D.; Scott, C.; I Science 294, 2323-2328, 2001
A;Title: Genome Sequence of the Plant Pathogen and Biotechnology A;Reference number: A97359; MUID:21608551; PMID:11743194
A;Accession: G97517.
                                                                                                                                                                                                                                           A;Gene: AGK C 4400
A;Map position: circular chromosome
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DNA processing chain A (AF088896) [imported] - Agrobacterium tumefaciens (strain C;Species: Agrobacterium tumefaciens C;Species: Agrobacterium tumefaciens C;Date: 30-Sep-2001 #sequence_revision 30-Sep-2001 #text_change 18-Nov-2002 C;Accession: G97517
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A;Molecule type: DNA
A;Residues: 1-380 <KUR>
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A;Title: The Genome of the Natural Genetic Engineer Agrobacterium tumefaciens C58
A;Reference number: AB2577; MUID:21608550; PMID:11743193
                                                                                                                                                                                                                                                                                                                             A; Cross-references: GB: AE007869; PIDN: AAK87096.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A;Molecule type: DNA
A;Residues: 1-380 < KURs
A;Residues: 1-380 < KURs
A;Cross-references: GB:AE008688; PIDN:AAL42311.1; PID:g17739713; GSPDB:GN00186
A;Experimental source: strain C58 (Dupont)
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Matches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Status: preliminary
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    protein
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    B1496_C1_154 - Mycobacterium
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Pred. No. 22;
2; Mismatches
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Pred. No. 22;
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0; Mismatches
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DVAARMRTMW 688

RESULT 14

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probable UvrD2 DNA helicase (EC 3.6.1.) [imported] - Sinorhizobium meliloti (;Species: Sinorhizobium meliloti)
C;Species: Sinorhizobium meliloti
C;Species: Sinorhizobium meliloti
C;Date: 24-Aug-2001 #sequence_revision 24-Aug-2001 #text_change 30-Sep-2001
C;Accession: A95418
R;Barnett, M.J.; Fisher, R.F.; Jones, T.; Komp, C.; Abola, A.P.; Barloy-Hubler, F.; Bows
R;Barnett, M.J.; Fisher, R.F.; Jones, T.; Komp, C.; Abola, A.P.; Barloy-Hubler, F.; Bows
R;Barnett, M.J.; Fisher, R.F.; Jones, T.; Komp, C.; Surzycki, R.; Wells, D.H.; Yeh, K.C
Proc. Natl. Acad. Sci. U.S.A. 98, 9883-9888, 2001
A;Title: Nucleotide sequence and predicted functions of the entire Sinorhizobium melilot
A;Title: Nucleotide sequence and predicted functions of the entire Sinorhizobium melilot
A;Totle: Nucleotide sequence and predicted functions of the entire Sinorhizobium melilot
A;Totle: Nucleotide sequence and predicted functions of the entire Sinorhizobium melilot
A;Cotession: A95418
A;Cotession: A95426; MUID:21396509; PMID:11481432
A;Accession: A95426; MUID:21396509; PMID:11481432
A;Cotession: A95426; MUID:21368234; PMID:11474104
A;Contents: annotation
C:Centents: annotation
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C;Date: 19-Mar-1997 #sequence revision 25-Apr-1997
C;Accession: S72753; T11012
R;Smith, D.R.; Robison, K.
submitted to the EMBL Data Library, November 1993
A;Description: Mycobacterium leprae cosmid B1496.
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A;Accession: T11012
A;Status: preliminary; translated from GB/EMBL/DDBJ
                                                                                                                                                              A;Genome: plasmid
C;Superfamily: helicase
C;Keywords: hydrolase
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A; Residues: 1-392 <P
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A; Residues: 1-392 < SMI>
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                                                                                 Query Match
Best Local
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                                                           Similarity 60. 6; Conservative
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     EVAARARVVW 10
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Pred. No. 40;
2; Mismatches
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Pred. No. 23;
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atypical protein kinase C isotype-specific interacting protein ASIP - rat C;Species: Rattus norvegicus (Norway rat) C;Species: Rattus norvegicus (Norway rat) C;Date: 20-Sep-1999 #sequence_revision 20-Sep-1999 #text_change 21-Jul-2000 C;Accession: T13948 R;Izumi, Y.; Hirose, T.; Tamai, Y.; Hirai, S.; Nagashima, Y.; Fujimoto, T.; Tabuse, Y.; J. Cell Biol. 143, 95-106, 1998 A;Title: An atypical PKC directly associates and colocalizes at the epithelial tight jun A;Reference number: Z17827; MUID:99437350; PMID:9763423 A;Accession: T13948
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JN0731
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A,Molecule type: mRNA
A,Residues: 1-1337 <IZU>
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Gene 129, 41-49, 19
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Search completed: September 1, 2004, 00:16:57 Job time : 10.8 secs
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N;Alternate names: hypothetical protein 43
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A; Cross-references: EMBL: X97918; PIDN: CAA66504.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-117 <ALO>
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Best Local S
Matches 6
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Local Similarity 60.0%;
hes 6; Conservative
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153.148 Million cell updates/sec
Title:
VS-09-508-095-8
Perfect score: 50
Sequence:
1 EVAARARVVW 10
Scoring table: BLOSUM62
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Searched:
141681 seqs, 52070155 residues
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Minimum DB seq length: 0
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## SUMMARIES

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P33365 escherichia		Q8y1y5 ralstonia s					P10486 escherichia		Q00531 hordeum vul		Q92851 homo sapien

## ALIGNMENTS

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Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
Al Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,
Al Distchenko L., Warusina K., Farmer A.A., Rubin G.M., Hong L.,
Al Brownstein M.J., Usdin T.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,
Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,
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Al Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Mullahy S.J.,
Bosak S.A., McEwan P.J., McKernan K.J., Abramson R.D., Mullahy S.J.,
Al Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,
Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
Al Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
Al Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
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Butterfield Y.S.M. September M. Sanchez M. Serber M. Serber M. September M. Serber M. 
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Gnoj L., la Bastide M., Kaplan N., Greco T., Touchman J., Muzny D.,

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                                                                                      MEDLINE=90064528;
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                                                                                                             -RAY CRYSTALLOGRAPHY (2.8 ANGSTROMS),
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                                                                                                                AND REVISIONS
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This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial
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MEDLINE=99190892; PubMed=10089347;
Sun X.L. Baker H.M., Shewry S.C., Jameson (
"Structure of recombinant human lactoferrin"
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Haridas M., Anderson B.F., Baker E.N.;
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                                                                                                                 send
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                                                                                                                                                                                                                                                                                                                                  FUNCTION: TRANSFERRINS ARE IRON BINDING TRANSPORT PROTEINS W
CAN BIND TWO ATOMS OF FERRIC IRON IN ASSOCIATION WITH THE BI
OF AN ANION, USUALLY BICARBONATE.
FUNCTION: LACTOPERROXINS A, B AND C HAVE OPIOID ANTAGONIST
ACTIVITY. LACTOPERROXIN A SHOWS PREFERENCE FOR MU-RECEPTORS,
LACTOPERROXIN B AND C HAVE SOMEWHAT HIGHER DEGREES OF PREFER
FOR KAPPA-RECEPTORS THAN FOR MU-RECEPTORS.
                                                                                                                                                                                                                                                            DOMAIN: Composed of two homologous domains. SIMILARITY: Belongs to the transferrin family.
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                                       U07643;
M93150;
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an email to license@isb-sib.ch).
CAA37914.1; -...
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AAA59511.1; -...
AAA58656.1; -...
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PDB; 1CE2; 19-MAR-99.
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InterPro; IPR001156; Transferrin.
Pfam; PF00405; transferrin; 2.
PRINTS; PR00422; TRANSFERRIN.
     Transport; Iron transports aignal; 3D-structure.
SIGNAL 19
CHAIN 20 708
DISULFID 28 55
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PROSITE; PS00207; TRANSFERRIN 3; 2.
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Karthikeyan S., Paramasivam M., Yadav S., Srinivasan A., Singh T.P.;

"Structure of buffalo lactoferrin at 2.5-A resolution using crystals
grown at 303 K shows different orientations of the N and C lobes.";

Acta Crystallogr. D 55:1805-1813(1999).

-!- FUNCTION: TRANSFERRINS ARE IRON BINDING TRANSPORT PROTEINS WHICH
CAN BIND TWO ATOMS OF FERRIC IRON IN ASSOCIATION WITH THE BINDING
OF AN ANION, USUALLY BICARBONATE.

-!- SUBCULTULAR LOCATION: Secreted.

-!- SUBCULTULAR LOCATION: Secreted.

-!- SUMCIALITY: Belongs to the transferrin family.
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15-JUL-1999
15-JUL-1999
10-OCT-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A.
Paramasivam M., Thattaliyath B.D., Kumar A., Singh T.P.;
Singh T.P.;
"cDNA-sequence of Buffalo lactoferrin.";
Submitted (JUN-1998) to the EMBL/GenBank/DDBJ [2]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Bubalus bubalis (Domestic water buffalo).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
Bovidae; Boyinae; Bubalus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             15-JUL-1999 (Rel. 38, Created)
15-JUL-1999 (Rel. 38, Last sequence update)
10-OCT-2003 (Rel. 42, Last annotation update)
Lactofransferrin precursor (Lactoferrin).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NCBI_TaxID=89462;
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Similarity 90.9%;
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ID 11-MA
AC P0984
DT 01-MA
DT 01-M
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"Location of the two catalytic sites in intestinal lactase-phlorizin hydrolase. Comparison with sucrase-isomaltase and with other glycosidases, the membrane anchor of lactase-phlorizin hydrolase.";

N. Biol. Chem. 267:18744-18752(1992).

-!- FUNCTION: LPH splits lactose in the small intestine.

-!- CATALYTIC ACTIVITY: Lactose in the small intestine.

-!- CATALYTIC ACTIVITY: Lactose + H(2)O = D-glucose + D-galactose.

-!- CATALYTIC ACTIVITY: Glycosyl-N-acylsphingosine + H(2)O = a sugar + N-acylsphingosine.

-!- SUBCELLULAR IOCATION: Type I membrane protein. Brush border.

-!- SUBCELLULAR IOCATION: Type I membrane protein. Brush border.

-!- DOMAIN: THE SEQUENCE EXHIBITS 4 REGIONS (I-IV) OF INTERNAL HONOLOGY, THEREFORE LPH MIGHT HAVE EVOLVED BY TWO CYCLES OF PARTIAL GENE DUPLICATION.
                                                                                                                                                                                                                                          HSSP; P26205; 1CbG.

InterPro; IPR001360; Glyco hydro 1: 5.

Pfam; PF00232; Glyco hydro 1: 5.

PRINTS; PR00131; GLHYDRLASE1.

PRODOM; PD000650; Glyco hydro 1: 4.

PROSITE; PS00572; GLYCOSYL HYDROL F1 1: 2.

PROSITE; PS00653; GLYCOSYL HYDROL F1 2: 3.
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SIGNAL
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P09849;
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                                                                                                                                          DOMAIN
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STRAIN=New Zealand white;
MEDILINE=89030634; PubMed=2460343;
Mantei N., Villa M., Enzler T., Macker H., Boll W., James
Hunziker W., Semenza G.;
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01-MAR-1989 (Rel. 10, Last sequence update)
30-MAY-2000 (Rel. 39, Last annotation update)
Lactase-phlorizin hydrolase precursor (Lactase-glycosylceramidase)
[Includes: Lactase (EC 3.2.1.108); Phlorizin hydrolase (EC 3.2.1.62)].
LCT OR LPH.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          "Complete primary structure of human and rabbit lactase-phlorizin hydrolase: implications for biosynthesis, membrane anchoring and evolution of the enzyme."; pypo J. 7:2705-2713(1988).
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Lagomorpha; Leporidae; Oryctolagus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MEDLINE=92406791; PubMed=1388157;
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                                              BETA-GLUCOSIDASE.
LACTASE-PHLORIZIN HYDROLASE.
EXTRACELLULAR (POTENTIAL).
POTENTIAL.
CYTOPLASMIC (POTENTIAL).
4 X APPROXIMATE REPEATS.
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RX MEDLINE=91206402; PubMed=1902057;
RA Boll W., Wagner P., Mantei N.;
RB Boll W., Wagner P., Mantei N.;
RT Boll W., Wagner P., Mantei N.;
RT Phorizin hydrolase in humans with adult-type hypolactasia or RT phlorizin hydrolase in humans with adult-type hypolactasia or RT persistence of lactase.";
RI persistence of lactase.";
RI Dersistence of lactase.";
RI J. Hum. Genet 48:889-902(1991).
CC -!- CATALYTIC ACTIVITY: Lactose + H(2)0 = D-galactose.
CC -!- CATALYTIC ACTIVITY: Glycosyl-N-acylsphingosine + H(2)0 = a sugar + CC -!- CATALYTIC ACTIVITY: Intestine.
CC -!- SUBCELLULAR LOCATION: Type I membrane protein. Brush border.
CC -!- SUBCELLULAR LOCATION: Type I membrane protein. Brush border.
CC -!- TISSUE SPECIFICITY: Intestine.
CC -!- DOMAIN: THE SECUENCE EXHIBITS 4 REGIONS (I-IV) OF INTERNAL HOMOLOGY; THEREFORE LPH MIGHT HAVE EVOLVED BY TWO CYCLES OF PARTIAL GENE DUPLICATION.
CC -!- DISEASE: Defects in the upstream vicinity of LCT are the cause of disaccharide intolerance III [MIM:23100]; also known as adult CC lactase deficiency or adult-type hypolactasia. In many human populations the activity of LCT declines in adults, leading to adult-type hypolactasia, whereas in other populations the high cc
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                                     use by non-profit institutions a modified and this statement is not
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A.
MEDLINE=89030634; PubMed.
Mantei N., Villa M., Enz.
Hunziker W., Semenza G.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Homo sapiens (Human).
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Primates;
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10-OCT-2003 (Rel. 42, Last annotation update)
Lactase-phiorizin hydrolase precursor (Lactase-glycosylceramidase)
[Includes: Lactase (EC 3.2.1.108), Phlorizin hydrolase (EC 3.2.1.62)].
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10-OCT-2003
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                                                 s SWISS-PROT entry is copyright. It is produced through a cween the Swiss Institute of Bioinformatics and the EMBL Buropean Bioinformatics Institute. There are no restrict by non-profit institutions as long as its content is
                                                                                                                        activity persists.
SIMILARITY: Belongs to family 1 of glycosyl hydrolases.
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            to license@isb-sib.ch)
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enrler T., Wacker H., Boll
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15-JUL-1998 (Rel. 36, Last sequence upda
28-FBB-2003 (Rel. 41, Last annotation up
Hypothetical protein ML0594.
ML0594 OR MLCL336.27C OR U1496A OR B1496
Mycobacterium leprae.
Bacteria, Actinobacteria, Actinobacteria
Corynebacterineae; Mycobacteriaceae; Myc
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GO; GO:0005824; C:membrane fraction; TAS.
GO; GO:000016; F:lactase activtty; TAS.
InterPro; IPR001360; Glyco hydro 1.
Pfam; PF00232; Glyco hydro 1; 4.
PRINTS; PR00131; GLHYDRLASE1.
PYODom; DD000650; Glyco hydro 1; 4.
PROSITE; PS00572; GLYCOSYL HYDROL F1 1; 2.
PROSITE; PS00653; GLYCOSYL HYDROL F1 2; 3.
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EMBL; M61837; AAA5950

EMBL; M61838; AAA5950

EMBL; M61839; AAA5950

EMBL; M61841; AAA5950

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EMBL; M61842; AAA5950

EMBL; M61844; AAA5950

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MIM; 603202; -.
MIM; 223100; -.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Glycosidase;
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                                                                                                                                                                                                                                STANDARD;
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       Actinobacteridae; Actinomycetales; pteriaceae; Mycobacterium.
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NUCLEOPHILE (BY SIMILARITY).
PROTON DONOR (POTENTIAL).
NUCLEOPHILE (BY SIMILARITY).
V -> I (IN REF. 2).
N -> S (IN REF. 2).
N -> S (IN REF. 2).
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Pred. No. 39;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LACTASE-PHLORIZIN HYDROLASI EXTRACELLULAR (POTENTIAL). POTENTIAL. CYTOPLASMIC (POTENTIAL).
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Best Local
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OPOCT-2003 (Rel. 42, Last sequence update)
OPOCT-2003 (Rel. 42, Last annotation update)
OPOCT-2003 (Rel. 42, Last sequence update)
OPOCT-2003 (Rel.
Lin D., Gish G.D., Songy
"The carboxy! terminus obinding motif.";
J. Biol. Chem. 274:3726-
[2]
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Cole S.T., Eiglmeier K., Parkhill J., James K.D., Thomson N.R.,
Cole S.T., Eiglmeier K., Parkhill J., James K.D., Thomson N.R.,
Wheeler P.R., Honore N., Garnier T., Churcher C., Harris D.,
Whoslal K., Basham D., Brown D., Chillingworth T., Connor R.,
Mungall K., Basham D., Brown D., Chillingworth T., Fraser A., Hamlin N.,
Holroyd S., Hornsby T., Jagels K., Lacroix C., MacLean J., Moule S.,
Holroyd S., Hornsby T., Jagels K., Lacroix C., MacLean J., Moule S.,
Murphy L., Oliver K., Quali M.A., Rajandream M.A., Rutherford K.M.,
Rutter S., Seeger K., Simon S., Simmonds M., Skelton J., Squares R.,
Squares S., Stevens K., Taylor K., Whitehead S., Woodward J.R.,
                                                                                                                                                                  STRAIN=NIH Swiss; TISSUE=Embryo;
MEDLINE=99121117; PubMed=9920925;
Lin D., Gish G.D., Songyang Z., P
                                                                                                                                                                                                                                                                                                                                                                                                          Mus musculus (Mouse).
Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Rodentia, Sciurognathi, Muridae, Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MOUSE
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"Massive gene decay in the leprosy bacillus.";
Nature 409:1007-1011(2001).
-i- SIMILARITY: Belongs to the UPF0051 (ycf24) family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      InterPro; IPR000825; UPF0051.
Pfam; Pf0,458; UPF0051; 1.
Hypothetical protein; Complete proteome.
SEQUENCE 392 AA; 42202 MW; 891162F7CA494C6A CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EMBL; AL583919; CAC30102.1; -. PIR; S72753; S72753.
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                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
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                                              Chem. 274:3726-3733(1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EVAARARVVW 10
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                                                                                                                   Songyang Z., Pawson T.; inus of B class ephrins constitutes a PDZ
                                                                                                                                                                                                                                                                                                        (ISOFORM 3)
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Pred. No. 13;
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-i- FUNCTION: Adapter protein involved in asymetrical cell division and cell polarization processes. Plays a role in the formation of epithelial tight junctions. Association with PARDGS may prevent the interaction of PARD3 with F11R/JAM1, thereby preventing tight junction assembly. The PARDG-PARD3 complex links GTP-bound Rho small GTPasses to atypical protein kinase C proteins.

-i- SUBUNIT: Interacts with PARDGA, PARDGB, PRKCI and PRKCZ. Part of a complex with PARDGA or PARDGB, PRKCI and CDC42 or RAC1. Interacts with F1RR/JAM1.

-i- SUBCELIULAR LOCATION: Cytoplasmic; membrane associated. Localized along the cell-cell contact region. Colocalizes with PARDGA and PRKCI at epithelial. tight junctions.
                                                                                                            This SWISS-PROT entry is copyright. It is produced through a collaboratic between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on it use by non-profit institutions as long as its content is in no was modified and this statement is not removed. Usage by and for commercial modified and this statement is not removed. Usage by and for commercial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MEDLINE=21340266; PubMed=11447115;
Ebnet K., Suzuki A., Horikoshi Y., Hirose T.,
Meyer zu Brickwedde M.-K., Ohno S., Vestweber D.;
"The cell polarity protein ASIP/PAR-3 directly associates with
junctional adhesion molecule (JAM).";
             EMBL; AY026057; AAK07669.1; -. HSSP; Q12923; 3PDZ.
                                                                            entities requires a license agreement (S
or send an email to license@isb-sib.ch).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Lin D., Edwards A.S., Fawcett J.P., Mbamalu "A mammallan PAR-3-PAR-6 complex implicated signalling and cell polarity.", Nat. Cell Biol. 2:540-547(2000).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   824-SER--SER-826.
STRAIN=NIH Swiss;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A. (ISOFORMS 1; 2 AND 3), SUBCELLULAR LOCATION, PHOSPHORYLATION BY PRKCZ, INTERACTION WITH PRKCI AND PARD6A, SUBUNIT OF A COMPLEX CONTAINING PARD6A AND CDC42, AND MUTAGENESIS OF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MEDLINE=21828709; PubMed=11839275; Gao L., Joberty G., Macara I.G.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EMBO J. 20:3738-3748(2001).
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"The cell-polarity protein Par6 links Par3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MEDLINE=20394297; PubMed=10934475;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    "Assembly of epithelial tight junctions is negatively regulated by
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MEDLINE=20394296; PubMed=10934474;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 INTERACTION WITH F11R AND PARD6B
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                                                                                                                                                                                                                                         ISOId=Q99NH2-3; Sequence=VSP 007472, VSP 007473;
TISSUE SPECIFICITY: All isoforms are expressed in heart, while expression in brain is mainly limited to isoform 1, and to isofor 3 to a weaker level.

DEVELOPMENTAL STAGE: Isoforms 1 and isoform 3 are expressed from 9.5 to E14.5, while isoform 2 is not expressed.

PTM: Phosphorylated by PRKCZ.
SIMILARITY: Belongs to the PAR3 family.

SIMILARITY: Contains 3 PDZ/DHR domains.
                                                                                                                                                                                                                                                                                                                                                                                                                             Event=Alternative splicing; Named isoforms=3; Name=1; Synonyms=180 kDa; IsoId=Q99NH2-1; Sequence=Displayed; Name=2; Synonyms=150 kDa; IsoId=Q99NH2-2; Sequence=VSP_007474; Name=3; Synonyms=100 kDa; IsoId=Q99NH2-2; Sequence=VSP_007474; Name=3; Synonyms=100 kDa;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Biol. 12:221-225(2002)
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(See http://www.isb-sib.ch/announce/
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                                                                                                                                                                                    a collaboration -
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RESULT
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Matches 6
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Pfam; PF00595; PDZ; 3.
SMART; SM00228; PDZ; 3.
PROSITE; PS50106; PDZ; 3.
Cell cycle; Cell division; T
Coiled coil; Phosphorylation
 junction
J. Cell S
                    SEQUENCE FROM N.A. (ISOFORM 2), SUI
PHOSPHORYLATION OF SER-827.
MEDLINE=220404990; PubMed=12045219;
Hirose T., Izumi Y., Nagashima Y.,
Sakai T., Suzuki Y., Yamanaka T., &
"Involvement of ASIP/PAR-3 in the I
                                                                                                                               tight
                                                                                                                                                                TISSUB-Fibroblast;
MEDLINE-98437350; PubMed-9763423;
MEDLINE-98437350; PubMed-9763423;
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Q9Z340;

10-OCT-2003 (Rel. 42, Created)

10-OCT-2003 (Rel. 42, Last sequence update)

10-OCT-2003 (Rel. 42, Last annotation update)

Partitioning-defective 3 homolog (PARD-3) (PAR-3) (Atypical PKC isotype-specific interacting protein) (ASIP) (Atypical PKC specific interacting protein)
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                                                                                                                                                                                                                                         Rattus norvegicus (Rat).
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE
                                                                                                                                                         Tabuse
                                                                                                                                                                                                      SEQUENCE FROM N.A. (ISOFORM 1),
                                                                                                                                                                                                                                                                               PARD3 OR PAR3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MUTAGEN
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DOMAIN
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                                                                                                    mi Y., Hirose T., Tamai Y., Hirai S.-I., Nagashima Y., Fujimoto use Y., Kemphues K.J., Ohno S.;
atypical PK directly associates and colocalizes at the epithe ht junction with ASIP, a mammalian homologue of caenorhabditis gans polarity protein PAR-3.";
Cell Biol. 143:95-106(1998).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GO:0005913; C:cell-cell adherens junction; GO:0005515; F:protein binding; IPI. GO:0016337; P:cell-cell adhesion; IC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                              3 AARARVVW 10
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                                                                                                                                                                                                                                                                                         protein) (ASBP).
           formation."
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271 359
461 546 P
590 677 P
712 936 I
980 1038 I
1046 1078 C
11145 1118 C
11145 1218 C
11274 1295 C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
115:2485-2495 (2002)
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75.0%;
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                                                                                                                                           associates and colocalizes at the epithelial
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COLLED COIL (POTENTIAL).
PHOSPHORYLATION (BY SIMILARITY).
KCOL. -> ESGT (in isoform 3).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Tight junction; Membrane; on; Alternative splicing.
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/FTId=VSP
Missing (I
/FTId=VSP
SMS->AMA, E
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Pred. No. 43;
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/FTId=VSP_
                                                                                                                                                                                                                                         Craniata; Vertebrata;
Sciurognathi; Muridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PHOSPHORYLATION BY PRKCZ AND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   INTERACTION WITH PKRCI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PDZ 3.
INTERACTS WITH
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                                                                                 SUBCELLULAR LOCATION,
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                                 , Tamai-Nagai Y., F
Suzuki A., Mizuno
                       promotion of
                                                                                                                                                                                                                                                                                                                                                                              1337
                                                                                                                                                                                                      INTERACTION WITH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (In isoform 2).
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P_007473.
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                    Y., Kurihara H., izuno K., Ohno S.; epithelial tight
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; Murinae; Rattus.
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PIR; T13948; T13948.
HSSP; Q12923; 3PDZ.
InterPro; IPR001478; PDZ.
                                                                                                                                                                                                                                                                                                                                                                                                                                       This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                               Cell
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                                                                                                                                       VARSPLIC
                                                                                                                                                                                                                                                                                                                              PROSITE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ISOId=Q03340-2; Sequence=VSP_007475;
TISSUE SPECIFICITY: Isoform 1 is predominently expressed in lung, glandular stomach, prostate, ovary and uterus. Isoform 1 is also expressed in brain, with a high expression in the cortex, hippocampus and in the striatum. Isoform 2 is predominently expressed in intestinal epithelial cells, kidney and prostate. PIM: Phosphorylated by PRKCZ (By similarity). The phosphorylated form is concentrated at the most apical tip of cell-cell contacts during the initial phase of tight junction formation.

SIMILARITY: Belongs to the PAR3 family.

SIMILARITY: Contains 3 PDZ/DHR domains.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRKCZ and CDC42 or RAC1 (By similarity).

SUBCELIULAR LOCATION: Cytoplasmic; membrane associated.

along the cell-cell contact region. Colocalizes with PR
apical edge of tight junctions.

ALTERNATIVE PRODUCTS:

Event=Alternative splicing; Named isoforms=2;

Name=1; Synonyms=180 kDa;

IsoId=92340-1; Sequence=Displayed;

Name=2; Synonyms=150 kDa;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        and cell polarization processes. Seems to play a central role the formation of epithelial tight junctions. Association with PARD6B may prevent the interaction of PARD3 with FIR/AMI, thereby preventing tight junction assembly. The PARD63 complex links GTP-bound Rho small GTPases to atypical protein kinase C proteins.

SUBUNIT: Interacts with PARD6A, PARD6B and FIIR/JAMI via its E domain (By similarity). Interacts with PARD6A or PARD6B, PRKCI or PRKCZ and CDC42 or RACI (By similarity).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FUNCTION: Adapter protein involved in asymetrical cell
                                                                                                                                                                                                                                                                                                             ITE; PS50106; PDZ; 3. cycle; Cell division;
347
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                                                    6; Conserv
AMRARVIW 354
                            AARARVVW 10
                                                                                                                                                                                                                                   1; Phosphorylation;
271 359 p
461 546 p
590 677 p
712 936 I
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                                                      Conservative
                                                                                                              ΑA,
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546
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12337
                                                                  70.0%;
75.0%;
                                                                                                              149448
                                                                                                                                                                                                                                                                                                             Tight junction; Membrane; Repeat;
                                                                                                              MW.
                                                                   Score 35;
Pred. No.
                                                                                                                                                                     LYS-RICH.
COILED COIL (
                                                                                                            Missing (in isoform 2).
/FTId=VSP_007475.
W; EC980C5106B52F9C CRC64;
                                                                                                                                                      PHOSPHORYLATION
                                                                                                                                                                                                                                         INTERACTS WITH
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                                                    Mismatches
                                                                   DB
43;
                                                                                                                                                                    (POTENTIAL)
(POTENTIAL)
(POTENTIAL)
                                                                                                                                                                                                                                                                                               splicing.
                                                                                 <u>ب</u>
                                                                                                                                                                                                                                         PRKCZ (PROBABLE).
                                                                                 Length 1337;
                                                      Indels
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ral role in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               a collaboration
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PRKCZ
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EMBL; AJ010930; CAA09407.1; -.

PDB; 1B1X; 02-DEC-98.

PDB; 1B7U; 02-EB-99.

PDB; 1B7Z; 02-PEB-99.

PDB; 1F9B; 10-FEB-01.

PDB; 116B; 13-FEB-02.

PDB; 1QJW; 14-JAN-00.

InterPro; IPR001156; Transferrin.
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077811;
15-JUL-1999
15-JUL-1999
10-OCT-2003
Transport;
Signal; 3D
NON TER
SIGNAL
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Pfam; PF00405; transferrin; 2.
PRINTS; PR00422; TRANSFERRIN.
SMART; SM00094; TR FEB; 2.
PROSITE; PS00205; TRANSFERRIN_1; 2.
PROSITE; PS00205; TRANSFERRIN_2; 2.
PROSITE; PS00207; TRANSFERRIN_3; 1.
PROSITE; PS00207; TRANSFERRIN_3; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation - the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        "cDNA sequence of mare lactoferrin."; Submitted (SEP-1998) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
Paramasivam M., Srinivasan A., Yadav M.P., Singh
"cDNA sequence of mare lactoferrin.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Equus caballus (Horse).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Perissodactyla; Equidae; Equus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MEDLINE=99296631; PubMed=10366507; Sharma A.K., Paramasivam M., Srini
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             15-JUL-1999 (Rel. 38, Creat
15-JUL-1999 (Rel. 38, Last
10-OCT-2003 (Rel. 42, Last
Lactotransferrin precursor
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"Three-dimensional structure of mare diferric lactoferrin at 2.6-A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         <-RAY CRYSTALLOGRAPHY (2.6 ANGSTROMS).</pre>
                                                                                                                                                                                                                                                                 3D-structure.
STANDARD;
Created)
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annotation update)
(Lactoferrin) (Fragment).
                                                                                                                                                                                                                      LACTOTRANSFERRIN
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Lactotransferrin
LTF.
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9; Conservative
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               (Lactoferrin)
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Pred. No. 29;
0; Mismatches
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 A Strausberg R.D., Felingold E.A., Grouse L.H., Derge J.G.,

A Klausner R.D., Collins F.S., Wagner L., Schenmen C.M., Schuler G.D.,

A Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,

A Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,

A Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,

A Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,

A Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,

A Hopkins R.F., Jordan H., Moore T., Casawant T.L., Scheetz T.E.,

Barownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,

A Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,

A Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,

A Brownstein M.J., J., McKernan K.J., Abramson R.D., Mullahy S.J.,

A Raha S.S., McGran P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,

A Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,

Villalon D.K., Muzny D.M., Sodergran E.J., Lu X., Gibbs R.A.,

Fahey J., Helton E., Ketteman M., Madan A., Rodrigues S., Sanchez A.,

Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,

Blakesley R.W., Touchman J.W., Green B.D., Dickson M.C.,

Butterfield Y.S.N., Krzywinski M.I., Skalska U., Smailus D.E.,

Butterfield Y.S.N., Krzywinski M.I., Skalska U., Smailus D.E.,

"Generation and initial analysis of more than 15,000 full-length

human and mouse cDNA sequences.";

Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
                                                         EMBL; J03298; AAA40525.1; -.
EMBL; B88510; BAA11633.1; -.
EMBL; BC006904; AAH06904.1; -.
EMBL; M74778; AAA39427.1; -.
EMBL; M72778; D2788; 1CB6.
MCD; MCI:96837; Ltf.
InterPro; IPR001156; Transferrin.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      [1]
SEQUENCE FROM !
                                                                                                                                                                                                                                                                                    Liu Y., Teng C.T.;
"Characterization of estrogen-responsive mouse lactoferrin promoter.";
J. Biol. Chem. 266:21880-21885(1991).

- FUNCTION: TRANSFERRINS ARE IRON BINDING TRANSPORT PROTEINS WHICH
CAN BIND TWO ATOMS OF FERRIC IRON IN ASSOCIATION WITH THE BINDING
OF AN ANION, USUALLY BICARBONATE.

- SUBUNIT: Monomer.
- SUBCELLULAR LOCATION: Secreted.
- DOMAIN: Composed of two homologous domains.
- SUNILARITY: Belongs to the transferrin family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                uterine secretions.";
J. Biol. Chem. 262:10134-10139(1987).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mus musculus (Mouse).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
NCBI_TaxID=10090;
PRINTS; PR00422; TRANSFERRIN.
SMART; SM00094; TR_FER; 2.
PROSITE; PS00205; TRANSFERRIN_1; 1.
                                                                                                                                                                        This SWISS-PROT entry is copyright. It is produced through a collable between the Swiss Institute of Bioinformatics and the EMBL outst the European Bioinformatics Institute. There are no restrictions use by non-profit institutions as long as its content is in modified and this statement is not removed. Usage by and for comentities requires a license agreement (See http://www.isb-sib.ch/ar send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE OF 1-14 FROM N.A. MEDLINE=92042099; PubMed=1939212; Liu Y., Teng C.T.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Submitted (NOV-1996)
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"Lactotransferrin is the
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PS; PR00422; TRANSFERRIN.
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eng C.T.;
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Feingold E.A., Grouse L.
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ID ENV FIVT2 STANDARD; PRT; 855 AA.
AC Q02282;
DT 01-JUL-1993 (Rel. 26, Created)
DT 01-UL-1993 (Rel. 26, Last sequence update)
DT 16-OCT-2001 (Rel. 40, Last annotation update)
DE ENV polyprotein precursor (GP150 polyprotein)
DE GP100; Glycoprotein GP36].
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TRANSFERRIN_3; 2.
ransport; Glycoprotein; Metal-binding; Repeat;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Kiyomasu
Sakuragi
                                                                                                                                                                                                                                                                                                                                                           Pfam; PF00429;
Coat protein; I
                                                                                                                                                                                                                                                                                                                                                                                                                     entities requires a license agreement (S or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        immunodeficiency virus isolates.";
Arch. Virol. 123:29-45(1992).
                                                                                                                                                                          CARBOHYD
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Peline immunodeficiency virus (isolate TM2) (FIV).
Viruses; Retroviridae; Lentivirus
NCBI_TaxID=31676;
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                                                                                                                                                                                                                                                                                                                                                                                interPro;
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7. Virol. 65:4539-4542(1991).
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                                     . Similarity
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LGARAQVVW
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J.I., Fukasawa M., Maki N.,
                   VAARARVVW
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0429; ENV_polyprotein; 1.
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Hasegawa A., Mikami
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21-JUL-1986 (Rel
21-JUL-1986 (Rel
30-MAY-2000 (Rel
Replication init
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Proc. Natl. Acad. Sci. U.S.A. 89:7169-7173 (1992).

-i- FUNCTION: SPECIFIES A-ALPHA-4 MATING-TYPE. WAY REGULATE THE EXPRESSION OF GENES SPECIFIC TO THE HOMOKARYOTIC CELL TYPE.

-I- SUBCELLULAR LOCATION: Nuclear.

-i- DEVELOPMENTAL STAGE: Expressed constitutively in homokaryon:

-i- SIMILARITY: Belongs to the TALE/M-ATYP homeobox family.

-i- SIMILARITY: Contains 1 homeobox domain.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  P37938;
01-OCT-1994
01-OCT-1994
10-OCT-2003
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STRAIN-CBS 340.81 / UVM 4-40;
MEDLINE-92357793; PubMed=1353886;
Stankis M.M., Specht C.A., Yang H
Novotny C.P.;
"The A alpha mating locus of Schi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SCHCO
                                                                                                                                                                                                                                                                                                                                                       PROSITE; PS00027; HOMEOBOX_1; FALSE_NEG.
PROSITE; PS50071; HOMEOBOX_2; FALSE_NEG.
HOMEOBOX; DNA-binding; Transcription regulation; Nuclear protein.
HOMEOBOX; TRALE-TYPE).
DNA_BIND 10 182 HOMEOBOX (TALE-TYPE).
DOMAIN 370 402 ASP/GLU-RICH (ACIDIC).
DOMAIN 436 469 ASP/GLU-RICH (ACIDIC).
Enterobacteriaceae; NCBI_TaxID=562;
                                       Escherichia coli.
Plasmid IncFII R100, Plasmid IncFII R1,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mating-type protein A-alpha Z4.
Schizophyllum commune (Bracket fungus).
Eukaryota, Fungi, Basidiomycota; Hymenomycetes;
Agaricales; Schizophyllaceae; Schizophyllum.
                            Bacteria;
                                                                       REPA OR REPA1.
                                                                                                                                                          REP2
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InterPro; IPR008422; Coprinus_mating_InterPro; IPR001356; Homeobox.
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                            Proteobacteria;
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(Rel. 30, Last sequence up
(Rel. 42, Last annotation
                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                              AA;
                                                                                                                                                        STANDARD;
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               Escherichia
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66.7%;
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                            Gammaproteobacteria;
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                                                                                                                                                                                                                                                                                   Score 34; DB Pred. No. 49; 2; Mismatches
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                                          and Plasmid IncFII NR1
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                           Enterobacteriales;
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PARTARE PROCESSES OF THE PROPERTIES OF THE PROPE
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EMBL; J01770; -; NOT ANNOTATED C.
EMBL; X12587; CAA31100.1; -..
EMBL; X12776; CAA31263.1; -..
EMBL; X02302; CAA26168.1; -..
EMBL; X02302; CAA26169.1; ALT_IN
EMBL; X02302; CAA26167.1; -..
EMBL; M26840; AAA26067.1; -..
PIR; A03602; IDECRE
PIR; 164780; 164780.
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"Transcription of
R-plasmid NR1 in
J. Mol. Biol. 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PLASMID=IncFII R100;

MEDLINE=86319522; Pubmed=3019092;

Ohtsubo H. Ryder T.B., Maeda Y., Armstrong K., Oht
"DNA replication of the resistance plasmid R100 and
Adv. Blophys. 21:115-133(1986).

-I-FUNCTION: This protein is essential for plasmid
involved in copy control functions.

-I-SIMILARITY: BELONGS TO THE INCFII REPA FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              This SWISS-PROT entry is copyright. It is produced through a collab between the Swiss Institute of Bioinformatics and the EMBL outst the European Bioinformatics Institute. There are no restrictions use by non-profit institutions as long as its content is in modified and this statement is not removed. Usage by and for comentities requires a license agreement (See http://www.isb-sib.ch/an or send an email to license@isb-sib.ch).
InterPro; IPR003446; Replctn.
Pfam; PF02387; IncFII repA; 1.
Plasmid; DNA replication; Plasmid
CONFLICT 55 5 8 ->
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MEDIINE-89011975; PubMed-3050127; Dong X., Womble D.D., Rownd R.H.; "In-vivo studies on the cis-acting IncFII plasmid NRI."; J. Mol. Biol. 202:495-509(1988).
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MEDLINE=81173118; PubMed=6163994;

MEDLINE=81173118; PubMed=6163994;

MEDLINE=81173118; PubMed=6163994;

MEDLINE=81173118; PubMed=6163994;

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Rosen J., Ryder T., Inokuchi H., Ohtsubo H., Ohtsubo "Genes and sites involved in replication and incompat R100 plasmid derivative based on nucleotide sequence Mol. Gen. Genet. 179:527-537(1980).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
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SEQUENCE FROM N.A.
PLASMID=IncFII R10
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R100 and
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IncFII
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RESULT 13
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Best Local :
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Charbit A., Chetouani F., Couve E., de Darwar A., Dehoux P.,
Domann E., Dominguez-Bernal G., Duchaud E., Durant L., Dussurget O.,
Entian K.-D., Fsihi H., Garcia-del Portillo F., Garrido P.,
Gautier L., Goebel W., Gomez-Lopez N., Hain T., Hauf J., Jackson D.,
Jones L.-M., Kaerst U., Kreft J., Kuhn M., Kunst F., Kurapkat G.,
Madueno E., Maitournam A., Mata Vicente J., Ng E., Nedjari H.,
Mordsiek G., Novella S., de Pablos B., Perez-Diaz J.-C., Purcell R.,
Vazquez-Boland J.-A., Voss H., Wehland J., Cossart P.;
Vazquez-Boland J.-A., Voss H., Wehland J., Cossart P.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
STRAIN=CLIP 11262 / Serovar 6a;
MEDLINE=21537279; PubMed=11679669;
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Baquero F., Berche I
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Bacteria; Firmicutes;
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                                                                                                      ListiList; LIN02301; -.

HAMAP, MF_00140; -; 1.

InterPro; IPR001305; tRNA-synt_I.

InterPro; IPR001412; tRNA-synt_I.

InterPro; IPR002306; Trp_tRNA-synt_Ib; 1.

PRINTS; PR01039; TRNASYNTHTRP.
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28-FEB-2003
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28-FEB-2003
                                                                                                                                                                                                EMBL; AL596171; CAC97529.1; PIR; AI1719; AI1719.
                                                                                                                                                                                                                                       entities requires a license agreement (S or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                          Vazquez-Boland J.-A., Voss H., Wehland J., Comparative genomics of Listeria species.";
SEQUENCE
              BINDING
                                                  Complete
                                                                   Aminoacyl-tRNA synthetase;
                                                                              PROSITE;
                                                                                           TIGRFAMs;
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PS00178; AA_TRNA_LIGASE_I;
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(Rel. 41, Last annotation update)
|-tRNA synthetase (EC 6.1.1.2) (Tryptophan--tRNA ligase)
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                                                                  Frotein biosynthesis; Ligase; ATP-binding;
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Pred. No.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                       Glaser P., Frangell L., Buchrieser C., Rusniok C., Amend A.,
Blaquero F., Berche P., Bloecker H., Brandt P., Chakraborty T.,
Charbit A., Chetouani F., Couve E., de Daruvar A., Dehoux P.,
Domann E., Dominguez-Bernal G., Duchaud E., Durant L., Dussurget O.,
Entian K.-D., Fshin H., Garcia-del Portillo F., Garrido P.,
Gautier L., Goebel W., Gomez-Lopez N., Hain T., Hauf J., Jackson D.,
Jones L.-M., Kaerst U., Kreft J., Kuhn M., Kunst F., Kurapkat G.,
Madueno E., Maitournam A., Mata Vicente J., Ng E., Nedjari H.,
Nordsiek G., Novella S., de Pablos B., Perez-Diaz J.-C., Purcell R.,
Remmel B., Rose M., Schlueter T., Simoes N., Tierrez A.,
Vazquez-Boland J.-A., Voss H., Wehland J., Cossart P.;
                                    SITE
BINDING
SEQUENCE
                                                                          Complete
SITE
                                                                                                                                                                                                                                                                                                                                                                               28-FEB-2003 (Rel.
28-FEB-2003 (Rel.
Tryptophanyl-tRNA
                                                                                                                                     ListiList, iMO02198; -.
HAMAP, MF_00140; -; 1.
InterPro; IPR002305; tRNA-synt_lb.
InterPro; IPR001412; tRNA-synt_I.
InterPro; IPR002306; Trp_tRNA-synt_lb.
Pfam; PF00579; tRNA-synt_lb; 1.
PRINTS; PR01039; TRNASYNTHTRP.
                                                                                                                                                                                                                          EMBL; AL591982; CAD00276.1; PIR; AF1349; AF1349.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STRAIN=EGD-e / Sei
MEDLINE=21537279;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NCBI_TaxID=1639;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Listeria monocytogenes
Bacteria; Firmicutes;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  28-FEB-2003
                                                                                                    Aminoacyl-tRNA synthetase;
                                                                                                                PROSITE;
                                                                                                                          TIGRFAMS;
                                                                                                                                                                                                                                                                                                                                                                 SIMILARITY: Belongs to class-I aminoacyl-tRNA synthetase family.
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                                                                                                              PS00178; AA_TRNA_LIGASE_I; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EVAAHAQAAW 92
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331 /
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196
36892 1
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41, Last annotation update)
synthetase (EC 6.1.1.2) (Tryptophan--tRNA ligase)
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 66.0%;
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                                        , MM
                                                                                                    Protein biosynthesis; Ligase; ATP-binding;
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                                      "KMSKS" REGION.
ATP (BY SIMILARITY)
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                                                                            "HIGH" REGION
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YDK9_SCHPO
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RA Sgouros J., Peat N., Hayles J., Baker S., Basham D., Bowman S.,
RA Brooks K., Brown D., Brown S., Chillingworth T., Churcher C.M.,
RA Brooks K., Brown D., Brown S., Chillingworth T., Churcher C.M.,
RA Gentles S., Goble A., Hamlin N., Harris D., Hidalgo J., Hodgson G.,
RA Holroyd S., Hornsby T., Howarth S., Huckle E.J., Hunt S., Jagels K.,
James K., Jones L., Jones M., Leather S., McDonald S., McLean J.,
RA James K., Jones L., Jones M., Leather S., McDonald S., McLean J.,
RA Gliver K., O'Neil S., Mungall K., Murphy L., Niblett D., Odell C.,
RA Mocney P., Moule S., Mungall K., Murphy L., Niblett D., Odell C.,
RA Gliver K., O'Neil S., Pearson D., Quail M.A., Rabbinowitsch E.,
RA Woodward J., Volckaert G., Saunders D., Seeger K., Sharp S.,
RA Woodward J., Volckaert G., Aert R., Robben J., Grymonprez B.,
RA Weltjens I., Vanstreels E., Rieger M., Schaefter M., Mueller-Auer S.,
RA Gabel C., Fuchs M., Fritzc C., Holzer E., Moestl D., Hilbert H.,
RA Gabel C., Fuchs M., Fritzc C., Holzer E., Moestl D., Hilbert H.,
RA Gabel C., Fuchs M., Fritzc C., Holzer E., Moestl D., Hilbert H.,
RA Gabel C., Fuchs M., Fritzc C., Holzer E., Moestl D., Hilbert H.,
RA Galbert F., Aves S.J., Xiang Z., Hunt C., Moore K., Hurst S.M.,
RA Geffeau A., Caddieu E., Dreano S., Gloux S., Lelaure V., Mottier S.,
RA Galibert F., Aves S.J., Xiang Z., Hunt C., Moore K., Hurst S.M.,
RA Galibert F., Aves S.J., Xiang Z., Hunt C., Moore K., Hurst S.M.,
RA Geffeau A., Caddieu E., Dreano S., Gloux S., Lelaure V., Mottier S.,
RA Galibert F., Aves S.J., Xiang Z., Hunt C., Moore K., Hurst S.M.,
RA Geffeau A., Caddieu E., Dreano S., Gloux S., Lelaure V., Mottier S.,
RA Galibert F., Aves S.J., Xiang Z., Hunt C., Moore K., Hurst S.M.,
RA Geffeau A., Caddieu E., Dreano S., Gloux S., Lelaure V., Mottier S.,
RA Galbert F., Aves S.J., Xiang Z., Hunt C., Moore K., Hurst S.M.,
RA Geffeau A., Caddieu E., Dreano S., Gloux S., Lelaure V., Mottier S.,
RA Galbert F., Lozafot L., Moreno S., Armstrong J.
Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches
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15-JUL-1998 (Rel. 36, Last sequence update)
10-OCT-2003 (Rel. 42, Last annotation update)
Hypothetical UPF0202 protein C20G8.09c in chromosome I.
SPAC20G8.09C.
                                                               PIR; T38131; T38131.

GeneDB_SPombe; SPAC20G8.09c; -.

InterPro; IPR007807; DUF699.

Pfam; PF05127; DUF699; 1.

Pfam; PF05127; DUF699; 1.

Hypothetical protein; ATP-binding; Nuclear protein.

NP_BIND 282 289 ATP (POTENTIAL).

SEQUENCE 1033 AA; 116463 MW; 8432B313D818E135 C.
                                                                                                                                                                                                                                                                      This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entitles requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Schizosaccharomyces pombe (Fission yeast).
Eukaryota; Fungi; Ascomycota; Schizosaccharomycetes;
Schizosaccharomycetales; Schizosaccharomycetaceae;
                                                                                                                                                                                                                             EMBL; Z95334; CAB08603.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                          -!- SUBCELLULAR LOCATION: Nuclear (By similarity).
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Score 33;
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Listing first 45 summaries
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  Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
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1 EVAARARVVW 10
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Compugen Ltd.
                   Q8u0t0 pyrococcus
Q8tcd2 homo sapien
Q8i2h6 homo sapien
Q8iu92 homo sapien
Q8iu92 homo sapien
Q8u02 homo sapien
Q8u02 bordetella
Q7vwa7 bordetella
Q9v0h2 pyrococcus
Q8u01 tropheryma
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NCBI_TaxID=2261;
                                                                                                    Similarity
8; Conserv
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34	34	34	34	34	34	34	34	34	34	34	34	34	35	35	ω G	35	35	35	35	35	35	35	35	35	35	35	35	36
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Q8CBA0	Q9KR79	7	Q82QU8	996480	P74336	066630	Q83ZS0	Q890H7	Q9ABY8	Q9SMP3	Q9ZBN2	Q38071	Q8JIF9	Q9KYF4		Q8BPQ6	w	m	Q8UFU2	m	Q8RPY8	Q8R8C1	Q82HU3	in	Q7W9R9	Q7WGY9	Q9YAA3	Q29519
Q8cba0 mus musculu	Q9kr79 vibrio chol	Q7ukj5 rhodopirell	Q82qu8 streptomyce	×			crynebact	Q890h7 lactobacill	caulobacte	O.	strept	pacter	ac	streptomyc	mus m	mus mus	rhizok	streptomyc	Q8ufu2 agrobacteri	xanthomona		thermoana	Q82hu3 streptomyce	Q9a6k8 caulobacter	Q7w9r9 bordetella	bordet	aeropyr	Q29519 oryctolagus

## ALIGNMENTS

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                                                                                                                                                          InterPro; IPR001410; DEAD.
InterPro; IPR001650; Helicase C.
Pfam; PF00270; DEAD; 1.
Pfam; PF00271; helicase C; 1.
SMART; SM00487; DEXDC; 1.
SMART; SM00490; HELICC; 1.
Helicase; Complete proteome.
SEQUENCE 980 AA; 112588 MW; F2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Q8U0T0 PRELIMINARY; PRT
Q8U0T0;
Q8U0T0;
C1-UN-2002 (TrEMBLrel. 21, Last
C1-UU-2003 (TrEMBLrel. 25, Last
Large helicase-related protein.
PF1504.
                                                                                                                                                                                                                                                                                                                       STRAIN=Vc1 / DSM 3638 / ATCC 43587 / JCM 8422; Weiss R.B., Dunn D.M., Robb F.T., Brown J.R., Weiss R.B., Dunn D.M., Robb F.T., Brown J.R., Wiriosus genome submitted (FEB-2002) to the EMBL/GenBank/DDBJ databases. EMBL, AE010251; AALB1628.1; --
EMBL; AE010251; AALB1628.1; --
GO; GO:0005524; F:ATP binding; IEA.
GO; GO:000826; F:ATP dependent helicase activity; IEA.
GO; GO:0003576; F:nucleic acid binding; IEA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Pyrococcus furiosus.
Archaea; Euryarchaeota; Thermococci;
298
EVATRLRVVW 307
                                       EVAARARVVW 10
                                                                                Conservative
                                                                                                  82.0%;
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                                                                              Score 41; DB 17;
Pred. No. 24;
0; Mismatches 2
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C -!- FUNCTION: TRANSFERRINS ARE IRON BINDIG TRANSPORT PROTEINS WHICAN BIND TWO ATOMS OF FEBRIC IRON IN ASSOCIATION WITH THE BIND OF AN ANION, USUALLY BICARBONATE (BY SIMILARITY).

-!- SIMILARITY: BELONGS TO THE TRANSFERRIN FAMILY.

REMBL; BC002347; AAH22347.1; ---
REGG; GO:0005576; C:extracellular; IEA.

RGG; GO:0005879; F:terric iron binding; IEA.

RGG; GO:0006879; F:terric iron binding; IEA.

RGG; GO:0006879; P:iron ion transport; IEA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             01-MAR-2003
01-MAR-2003
01-OCT-2003
                                 domain of human lactoferrin.";

Submitted (UTL-2002) to the EMBL/GenBank/DDBJ

EMBL, AY137470, AAN11304.1;

GO; GO:0005576; C:extracellular; IEA.

GO; GO:0008199; F:ferric iron binding; IEA.

GO; GO:0006879; F:iron ion homeostasis; IEA.

GO; GO:0006876; P:iron ion transport; IEA.

InterPro; IERO01156; Transferrin.
                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
Kaplan J.B., Fine D.H.;
"Characterization of an amino acid polymorphism in the antibacterial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRINTS; PR00422; TRANSFERRIN.

SMART; SM00094; TR_FER; 2.

PROSITE; PS00205; TRANSFERRIN 1; 2.

PROSITE; PS00206; TRANSFERRIN 2; 2.

PROSITE; PS00207; TRANSFERRIN 3; 2.

PROSITE; PS00207; TRANSFERRIN 3; 2.

Glycoprotein; Iron transport; Metal-binding;

Glycoprotein; Iron transport; Metal-binding;

SEQUENCE 711 AA; 78327 MW; 1B9C7EE097C45
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Mammalia; Eutheria;
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01-OCT-2003
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01-JUN-2002
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Homo sapiens (Human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        QBIZH6;
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Primates;
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Pred. No. 34;
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Catarrhini;
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Catarrhini;
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01-MAR-2003
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01-OCT-2003
                                                                                                                           CHAIN
SEQUENCE
                                                                                                                                                                                                                       EMBL; AY165046; AAN63998.1; -... EMBL; AY178998; AAN75578.2; -... GO:0005576; C:extracellular; IEA. GO: GO:0008199; F:ferric iron binding; IEA. GO: GO:0006879; P:iron ion homeostasis; IEA. GO: GO:0006826; P:iron ion transport; IEA. InterPro; IPR001156; Transferrin.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRINTS; PR00422; TRANSFERRIN.
SMART; SM00094; TR FER; 2.
PROSITE; PS00205; TRANSFERRIN 1; 2.
PROSITE; PS00206; TRANSFERRIN 2; 2.
PROSITE; PS00207; TRANSFERRIN 3; 2.
SEQUENCE 711 AA; 78396 MW; 547AB9423C27CE67
                                                                                                                                               Signal.
SIGNAL
                                                                                                                                                                                                      Pfam; PF00405; transferrin; 2
PRINTS; PR00422; TRANSFERRIN.
                                                                                                                                                                                                                                                                                          "Homo sapiens lactoferrin
Submitted (DEC-2002) to th
                                                                                                                                                                                                                                                                                                              Baskar Singh
Singh T.P.;
                                                                                                                                                                                                                                                                                                                                                                               TISSUE=Mammary gland;
Shi Y.-Q., Zhang Y., Zheng Y.-N
"Homo sapiens Lactotransferrin
                                                                                                                                                                                                                                                                                                                                                                                                                                                  Homo sapiens (Human
Eukaryota; Metazoa;
                                                                                                                                                                PROSITE,
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PROSITE; PS00206;
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E; PS00205; TRANSFERRIN_1;
E; PS00206; TRANSFERRIN_2;
E; PS00207; TRANSFERRIN_3;
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                                                 EVAARRARVVW
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                                                                                                                            711 AA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
  PRELIMINARY;
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Pred. No. 34;
                                                                                               Score 39.5;
Pred. No. 34;
                                                                                                                                                POTENTIAL
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  PRT;
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Best Local S
Matches 6
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Best Local S
Matches 8
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Q38153;
01-NOV-1996
01-NOV-1996
01-JUN-2003
                                                                                                                                                           Submitted (MAY-1996) to the EMBL; X67865; CAA48064.1; -. EMBL; X97918; CAA66499.1; -. PIR; S43815; S43815.
SEQUENCE 175 AA; 20106 MW
                                                                                                                                                                                                                                                                                                                                                                                                                     MEDIINE=94172631; PubMed=8126723; Peddre X., Weise F., Chai S., Lueder G., Alonso J.C.; "Analysis of cis and trans acting elements required for the initiation of DNA replication in the Bacillus subtilis bacteriophage SPP1.";
                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A.
Alonso J.C., Luder G.,
Submitted (JAN-1998) t
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Sasaki T., Matsumoto T., Katayose Y.;
Sasaki T., Matsumoto T., Katayose Y.;
"Oryza sativa nipponbare(GA3) genomic DNA, chromosome 8,
clone:OSJNBA0077M12.";
Submitted (MAY-2002) to the EMBL/GenBank/DDBJ databases.
EMBL; AP005301; BAC24969.1; -
                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A. Alonso J.C.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Viruses; dsDNA viruses,
Lambda-like viruses.
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Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae;
Ehrhartoideae; Oryzeae; Oryza.
NCBI_TaxID=39947;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NCBI_TaxID=10724;
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OSJNBA0077M12.27.
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01-MAR-2003 (TrEMBLrel.
01-MAR-2003 (TrEMBLrel.
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Pred. No.
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RESULT Q7VWA7

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activity; IEA

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RESULT 8
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ID Q9V0
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AC Q9V0
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AC Q9V0
DT 01-M
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A Harris D.E., Holden M.T.G., Churcher C.M., Bentley S.D., Mungall K.L.,
A Cerdeno-Tarraga A.M., Temple L., James K., Harris B., Quail M.A.,
A Achtman M., Atkin R., Baker S., Basham D., Bason N., Cherevach I.,
A Chillingworth T., Collins M., Cronin A., Davis P., Doggett J.,
Chillingworth T., Collins M., Gronin A., Davis P., Doggett J.,
A Chillingworth T., Collins M., Gronin A., Davis P., Doggett J.,
Chillingworth T., Collins M., Gronin A., Davis P., Doggett J.,
Chillingworth T., Collins M., Cronin A., Davis P., Doggett J.,
Chillingworth T., Wonberczak H., C'Neil S., Jagels K.,
A Leather S., Moule S., Norberczak H., C'Neil S., Ormond D., Price C.,
Charles J., Starter S., Sanders M., Saunders D., Seger K.,
Charles S., Simmonds M., Skelton J., Squares D., Seeger K.,
Charles S., Simmonds M., Skelton J., Squares R., Squares S., Stevens K.,
Charles S., Simmonds M., Skelton J., Squares R., Squares S., Stevens K.,
Charles C., Barrell B.G., Maskell D.J.,
Completella parapertussis and Bordetella bronchiseptica.",
Nat. Genet. 35:32-40(2003).
W Complete proteome
"PYTCOCCUS abyssi genome sequence: insights into an structure and evolution.", to the EMBL/GenBank/DDBJ databe-
submitted (JUL-1999) to the EMBL/GenBank/DDBJ databe-
'- SIMILARITY: TO DEAD/DEAH BOX HELICASE FAMILY.

-- SIMILARITY: TO DEAD/DEAH BOX HELICASE FAMILY.

-- SIMILARITY: TO HELICASE C-TERMINAL DOMAIN.

PIR; B75127, GO; GO:0005524; F:ATP binding; IEA.

GO; GO:000576; F:ATP dependent helicase activity; I GO; GO:000576; F:nucleic acid binding; IEA.

InterPro; IPR001410; DEAD, InterPro; IPR001410; DEAD, InterPro; IPR00150; Helicase_C.

Pfam; PF00271; helicase_C; 1.
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Q9V0H2;
01-MAY-2000 (TrEMBLrel. 13, Created)
01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
Large helicase-related protein (LHR-1).
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Archaea; Euryarch
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STRAIN=Tohama I / ATCC BAA-589 / NCTC 13251;
MEDLINE=22827954; PubMed=12910271;
Parkhill J., Sebaihia M., Preston A., Murphy
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Bacteria; Proteobacteria;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRT;
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Best Local
                                                                                                                                                                                                                                                                                  Q833H9;
Q833H9;
01-JUN-2003 (TrEMBLrel. 24, Created)
01-JUN-2003 (TrEMBLrel. 24, Last sequence update)
01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
---hosphooluconolactonase (EC 3.1.1.31).
    [1]
SEQUENCE FROM N.A.
Audic S.,
                                                                                                            Tropheryma whipplei (strain Twist) (Whipple's bacillus).
Bacteria, Actinobacteria, Actinobacteridae, Actinomycetales,
Micrococcineae, Cellulomonadaceae, Tropheryma.
NCBI_TaxID=203267;
                                                                                                                                                                                                                                                                          6-phosphogluconolactonase DEVB OR TWT308.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EWBL; BX251411; CAD67132.1; ...
GO; GO:0017057; F:6-phosphogluconnolactonase activity; IEA.
GO; GO:0016787; F:hydrolase activity; IEA.
GO; GO:0005975; F:carbohydrate metabolism; IEA.
GO; GO:0005975; P:pentose-phosphate shunt; IEA.
InterPro; IPR006148; Gluc gallisom.
InterPro; IPR005148; Gluc gallisom.
Ffdn; PF01182; Glucosamine iso; 1.
TIGR01198; pgl; T.
TIGR01198; pgl; T.
Hydrolase; Complete protesom.
SEQUENCE 252 AA; 28115 MW; 02046B6E1FDC2101 CRC64;
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01-JUN-2003 (TrEMBLrel. 24, Created)
01-JUN-2003 (TrEMBLrel. 24, Last sequence update)
01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
6-phosphogliconolactonase (EC 3.1.1.31).
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ATP-binding; Helicase; Complete proteome.
SEQUENCE 912 AA; 104689 NW; 36F845062D01B811 CRC64;
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BentLey S.D., Maiwald M., Murphy L.D., Pallen M.J., Yeats C.A.
Dover L.G., Norbertczak H.T., Besra G.S., Quail M.A., Harris D
von Herbay A., Goble A., Rutter S., Squares R., Squares S.,
Barrell B.G., Parkhill J., Relman D.A.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     bacterium Tropheryma whipplei.";
Lancet 361:637-644(2003).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Barrell B.G., Parkhill J., Relman D.A.; "Sequencing and analysis of the genome of the Whipple's disease
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Tropheryma whipplei (strain TW08/27) (Whipple's bacillus)
Bacteria, Actinobacteria, Actinobacteridae; Actinomycetal
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            Robert
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        Ogata H.,
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87;
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Best Local (
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SMART; SM00304; HAMP; 1.

SMART; SM00386; HiskA; 1.

PROSITE; PS50865; HAMP; 1.

PROSITE; PS50109; HIS KIN; 1.

NON TER 372 372

SEQUENCE 372 AA; 41488 MW;
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                                                                                                                                                                                                                                                                                                                                InterPro; IPR005467; His kinase.
InterPro; IPR003661; His kina N.
Pfam; PF00672; HAMP; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EMBL;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Thiocapsa roseopersicina.
Bacteria; Proteobacteria;
Chromatiaceae; Thiocapsa.
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01-JUN-2003
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Hydrolase;
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       InterPro; IPR006148; Gluc gal isom.
InterPro; IPR005900; Phosphogluconlac.
Pfam; PF01182; Glucosamine iso; 1.
TIGRPAMs; TIGR01198; pgl; T.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Kovacs K.L.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Maroti G.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STRAIN=BBS;
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                                                                                                                                                                                                                                                                                                                                                                                                      InterPro; IPR003660; HAMP.
                                                                                                                                                                                                                                                                                                                                                                                                                         L; AY152822; AAN87038.1; --
GG:0016020; C:membrane; IEA.
GO:0016301; F:kinase activity; IEA.
GG:0000155; F:two-component sensor
GO:0007165; P:signal transduction;
308
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                                                                                                        Similarity
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                                         VAARARVVW 10
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291 AA; 32564 MW;
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                                                                                    Conservative
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Last annotation update)
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Pred. No. 44;
2; Mismatches
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Pred. No. 56;
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                                                                                                                           2; Length 372;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                    activity; IEA.
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RESULT
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Q7X365
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Best Local :
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Best Local :
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Submitted (JAN-2003) to the EMBL/GenBank/DDBJ databases.

EMBL, AY223325; AAP06362.1; -..
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Q86E95;
01-JUN-2003
01-JUN-2003
01-JUN-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          01-OCT-2003 (TrEMBLrel. 25, Created 01-OCT-2003 (TrEMBLrel. 25, Last as 01-OCT-2003 (TrEMBLrel. 25, Last as 101-OCT-2003 (TrEMBLrel. 25, Last as Putative transport protein. uncultured Acidobacteria bacterium.
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01-OCT-2003 (TrEMBLrel.
01-OCT-2003 (TrEMBLrel.
01-OCT-2003 (TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Schistosoma japonicum (Blood fluke).
Eukaryota; Metazoa; Platyhelminthes; Trematoda; Digenea; Strigeidida;
Schistosomatoidea; Schistosomatidae; Schistosoma.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          population genomics."; Submitted (APR-2003) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Quaiser A., Ochsenreiter T., Lanz C. Eck J., Schleper C., "Acidobacteria form a coherent but heacterial domain and exchange genes
                                                                                        01-OCT-2003 (TrEMBLrel. 25, Created)
01-OCT-2003 (TrEMBLrel. 25, Last sequence update)
01-OCT-2003 (TrEMBLrel. 25, Last annotation updat
Uncharacterized conserved protein.
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01-OCT-2003
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                      Prochlorococcus marinus.
Bacteria; Cyanobacteria;
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NCE 365 AA; 38767 MW;
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21357 MW; F2371079F65AE25A CRC64;
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                      Prochlorophytes;
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Last sequence
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Pred. No. 86;
1; Mismatches
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Pred. No.
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Matches 5; Conserv
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"Genome sequence of the cyanobacterium Prochlorococcus marinus SS120, a nearly minimal oxyphototrophic genome.",
Proc. Natl. Acad. Sci. U.S.A. 100:10020-10025(2003).
EMBL, AE017162; AAP99531.1; -.
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STRAIN=SARG / CCMP 1375 / SS120;
STRAIN=SARG / CCMP 1375 / SS120;
MEDLINE=22810154; PubMed=12917486;
Dufresne A., Salanoubat M., Partensky F., Artiguenave F., Axmanı
Barbe V., Duprat S., Galperin M.Y., Koonin E.V., Le Gall F.,
Makarova K.S., Ostrowski M., Oztas S., Robert C., Rogozin I.B.,
Scanlan D.J., Tandeau de Marsac N., Weissenbach J., Wincker P.,
                                                                                                                                                                                                                                                                  "Genome divergence in two Prochlorococcus ecotypes reflects oceanic niche differentiation.";
Nature 424:1042-1047(2003).
EMBL, BX572095, CAB20301.1; -.
                                                                                                                                                                                                                                                                                                                                                                      MEDLINE=22825698; PubMed=12917642;
Rocap G., Larimer F.W., Lamerdin J., Malfatti S., Chain P.,
Rholgen N.A., Arellano A., Coleman M., Hauser L., Hess W.R.,
Johnson Z.I., Land M., Lindell D., Post A.F., Regala W., Shah
Shaw S.L., Steglich C., Sullivan M.B., Ting C.S., Tolonen A.,
Webb E.A., Zinser E.R., Chisholm S.W.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Prochlorococcus marinus
Bacteria; Cyanobacteria;
                                                                                                                                                                                                           Hydrolase; Complete proteome.
SEQUENCE 473 AA; 51395 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NCBI_TaxID=74547;
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297
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                                                                                                    Similarity 7; Conserv
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408 AA;
VVARRRVVW
                                                      VAARARVVW
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                                                                                                    Conservative
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putative magnesium transport
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50.0%;
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sium transport protein (
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                                                                                                    Score 36; DB
Pred. No. 1.1e
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2;
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